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ABRAMOWITZ, Stanley
Force Fields for Group IV Tetrafluorides and Group V Trifluorides (T/E)—Ira W. Levin and Stanley Abramowitz. 44, 2562 (1966)
Force Fields for Some Group VI Hexafluorides (T/E)—Stanley Abramowitz and Ira W. Levin. 44, 3353 (1966)

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ADAMS, Ralph N.
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Photoconductivity in Rigid Organic Solutions. I. Phenomenology of the Photocurrents (E)—G. E. Johnson and A. C. Albrecht. 44, 3162 (1966)
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Analytical Wavefunctions of $^2D$ States of Lithium Isoelectronic Sequence (T)—D. B. Cook and M. A. Ali. 44, 4121 (1966)

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Integral Equations for Distribution Functions of Classical Fluids. II (T)—A. R. Allnatt. 44, 3941 (1966)

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Quantum Dynamics of Anharmonic Oscillators. I. Simple Examples (T)—E. B. Alterman, C. T. Tahk, and D. J. Wilson. 44, 451 (1966)

AMENU-KPODO, Kwasi
Influence of Temperature on the *F*-Center Absorption in Sodium Fluoride (E)—K. Amenu-Kpodo, T. J. Neubert, and W. Youngblade. 44, 1324 (1966)

AMME, Robert C.
Ionization Cross Sections for Neutral–Neutral Collisions Utilizing Asymmetric Charge Transfer (E)—Robert C. Amme and Howard C. Hayden. 44, 2828(L) (1966)

ANANTARAMAN, A. V.
Absorption of Sound Near the Critical Point of the Nitrobenzene–Iso-octane System (E)—A. V. Anantaraman, A. B. Walters, P. D. Edmonds, and C. J. Pings. 44, 2651 (1966)

ANBAR, Michael
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Electrical Properties of Some Charge-Transfer Complexes under High Pressure (E)—T. N. Andersen, D. W. Wood, R. C. Livingston, and H. Eyring. 44, 1259 (1966)

ANDERSON, A.
Infrared and Raman Studies of Crystalline HCl, DCl, HBr, and DBr (E)—R. Savoie and A. Anderson. 44, 548 (1966)
Far-Infrared Spectra of Crystalline Acetylenes $C_2H_2$ and $C_2D_2$ (E)—A. Anderson and Wm. Hayden Smith. 44, 4216 (1966)

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NMR Studies of the Pressure Dependence of Self-Diffusion in Four Organic Solids (E)—J. E. Anderson and W. P. Slichter. 44, 3647 (1966)

ANDERSON, W. W.
Luminescence of Rare-Earth-Activated Cadmium Sulfide (E/T)—W. W. Anderson. 44, 3283 (1966)

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Infrared Spectrum, Structure, and Bonding of Lithium Nitroxide, LiON (E)—W. Lester S. Andrews and George C. Pimentel. 44, 2361 (1966)
Infrared Detection of Methyl Radical in Solid Argon (E)—W. Lester S. Andrews and George C. Pimentel. 44, 2527(L) (1966)

ANGWIN, Meredith Joan
Nitrogen-Carbon Monoxide Phase Diagram (E)—Meredith Joan Angwin and Judith Wasserman. 44, 417(L) (1966)

AQUILANTI, V.
Ion-Molecule Reactions between $H_3^+$ and Saturated Hydrocarbons (E)—V. Aquilanti and G. G. Volpi. 44, 2307 (1966)
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Absorption Spectra of the Solvated Electron in Polar Liquids: Dependence on Temperature and Composition of Mixtures (E)—Shigeyoshi Arai and Myran C. Sauer, Jr. 44, 2297 (1966)

ARAUJO, Roger J.
Entropy Interpretation of Viscosity of $B_2O_3$ (T)—Roger J. Araujo. 44, 1299(L) (1966)

ARCHIBALD, R. C.
Heat and Entropy of Hydration of $\alpha$-$NiSO_4 \cdot 6H_2O$ to $NiSO_4 \cdot 7H_2O$. Their Low-Temperature Heat Capacities (E)—J. W. Stout, R. C. Archibald, G. E. Brodale, and W. F. Giauque. 44, 405 (1966)

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ARMSTRONG, A. T.
Energy of Excimer Luminescence. V. Excimer Fluorescence of Naphthalene and Methylnaphthalenes (T/E)—F. J. Smith, A. T. Armstrong, and S. P. McGlynn. 44, 442 (1966)
Semiempirical Molecular Orbital Calculations. I. The Electronic Structure of $H_2O$ and $H_2S$ (T)—D. G. Carroll, A. T. Armstrong, and S. P. McGlynn. 44, 1865 (1966)

ARMSTRONG, R. L.
Repulsive Interactions and Molecular Rotation in Inert-Gas Lattices (T)—R. L. Armstrong. 44, 530 (1966)

ARNOLD, S. J.
Some Novel Energy-Pooling Processes Involving $O_2(^1\Delta_g)$ (E)—S. J. Arnold, N. Finlayson, and E. A. Ogryzlo. 44, 2529(L) (1966)

ARONS, J. de Swaan
Gas–Gas Equilibria (T)—J. de Swaan Arons and G. A. M. Diepen. 44, 2322 (1966)

ARONSON, S.
On the Bonding Energy in Cesium–Graphite Compounds (T)—F. J. Salzano and S. Aronson. 44, 4320 (1966)

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Isotope Shifts and Spin Coupling in the Proton Magnetic Resonance of Deuterated Ammonium Ions (E)—G. Fraenkel, Y. Asahi, H. Batiz-Hernandez, and R. A. Bernheim. 44, 4647(L) (1966)

ATKINS, P. W.
ESR Linewidths in Solution. II. Analysis of Spin-Rotational Relaxation Data (T)—P. W. Atkins and Daniel Kivelson. 44, 169 (1966)

AUBEL, J. L.
Magnetic-Rotation Spectra of the 2-0 Vibration-Rotation Band of NO (E/T)—J. L. Aubel and C. D. Hause. 44, 2659 (1966)

AUSLOOS, P.
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Gas-Phase Radiolysis of Cyclobutane (E)—R. D. Doepker and P. Ausloos. 44, 1641 (1966)
Gas-Phase Radiolysis of Cyclopentane. Relative Rates of $H_2^-$-Transfer Reactions from Various Hydrocarbons to $C_3H_6^+$ (E)—R. D. Loepker and P. Ausloos. 44, 1951 (1966)

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AVERY, H. E.
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AXTMANN, Robert C.
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BAIAMONTE, Vernon D.
Vibrational Energy of Ozone During Photolytic Explosion (E)—V. D. Baiamonte, D. R. Snelling, and E. J. Bair. 44, 673 (1966)
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BAILEY, J. M.
Muonium Chemistry (E)—R. M. Mobley, J. M. Bailey, W. E. Cleland, V. W. Hughes, and J. E. Rothberg. 44, 4354(L) (1966)

BAILEY, T. L.
Inelastic Collisions of $H_2^+$ and $N_2^+$ Ions with Hydrogen Molecules (E)—Dennis W. Vance and T. L. Bailey. 44, 486 (1966)

BAIR, Edward J.
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BAKRI, M. M.
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BALDWIN, B. A.
Effects of High Pressures on the Phosphorescence of Naphthalene and Quinoline (E)—H. W. Offen and B. A. Baldwin. 44, 3642(L) (1966)

BALKANSKI, M.
Infrared Lattice-Vibration Spectra in $NiF_2$, $CoF_2$, and $FeF_2$ (E)—M. Balkanski, P. Moch, and G. Parisot. 44, 940 (1966)

BANKS, E.
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BANYARD, K. E.
Quantum-Mechanical Study of Some Three-Center Two-Electron Systems. I. Energy Calculations (T)—K. E. Banyard and Harrison Shull. 44, 384 (1966)
Erratum: United-Atom Approximation Applied to Argonlike Molecules. II. $PH_2$, $PH_3$, and $PH_4^+$ (T)—K. E. Banyard and R. B. Hake. [43, 2684 (1965)] 44, 3150 (1966)
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Energy Calculation for the Hydride Ion (T)—K. E. Banyard. 44, 4645(L) (1966)

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Electron Correlation and the Nuclear Spin-Spin Coupling Constant. I. An Alternant Molecular Orbital Description of Nuclear Spin-Spin Coupling (T)—Michael Barfield. 44, 1836 (1966)

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Theory of Work-Function Change on Adsorption of Polarizable Ions (T)—J. Ross Macdonald and C. A. Barlow, Jr. 44, 202 (1966)

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BAUER, S. H.
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BECKER, Philip M.
Pulsed-Mass-Spectrometric Study of the Bimolecular Formation of $N_3^+$ (E)—M. C. Cress, P. M. Becker, and F. W. Lampe. 44, 2212(L) (1966)
BECKER, Richard L.
Alkali-Atom-Halogen-Molecule Reactions in Molecular Beams; The Spectator Stripping Model (E/T)—R. E. Minturn, S. Datz, and R. L. Becker. 44, 1149 (1966)
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Vibrational Relaxation of Diatomic Molecules (T)—Sidney W. Benson and George C. Berend. 44, 470 (1966)
Theory of the Low-Temperature Chromatographic Separation of the Hydrogen Isotopes (T)—James King, Jr., and Sidney W. Benson. 44, 1007 (1966)
Vibrational and Rotational Excitation of Diatomic Molecules. Two-Dimensional Model (T)—Sidney W. Benson and George C. Berend. 44, 4247 (1966)
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Diatomic Forces and Force Constants. I. Errors in the Hellmann-Feynman Method (T)—Margaret Lowe Benston and Bernard Kirtman. 44, 119 (1966)
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New Force Theorem (T)—Margaret Lowe Benston. 44, 1300(L) (1966)
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Infrared Spectrum and Normal-Coordinate Analysis of $SF_4$ (E/T)—Ira W. Levin and Charles V. Berney. 44, 2557 (1966)
BERNHARD, William
Electron Spin Resonance of a Gamma-Irradiated Single Crystal of Barbituric Acid Dihydrate (E/T)—William Bernhard and Wallace Snipes. 44, 2817 (1966)
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$^{59}Co$ Nuclear Electric Quadrupole Coupling in a Single Crystal of $Co(en)_3Cl_3 \cdot 3H_2O$ (E)—B. A. Scott and R. A. Bernheim. 44, 2004 (1966)
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Crystal Structure of Paramagnetic Ludlamite, $Fe_3(PO_4)_2 \cdot 4H_2O$, at 298°K (E)—S. C. Abrahams and J. L. Bernstein. 44, 2223 (1966)
BERNSTEIN, R. B.
Calculated Elastic Scattering Cross Sections for the $H^+$–He System (T)—G. G. Weber, N. H. Gordon, and R. B. Bernstein. 44, 2814 (1966)
Numerical Evaluation of Barrier Penetration and Resonance Effects on Phase Shifts (T)—R. B. Bernstein, C. F. Curtiss, S. Imam-Rahajoe, and H. T. Wood. 44, 4072 (1966)
Sudden Approximation Applied to Rotational Excitation of Molecules by Atoms. II. Scattering of Polar Diatomics (T)—R. B. Bernstein and K. H. Kramer. 44, 4473 (1966)
BERRY, G. C.
Thermodynamic and Conformational Properties of Polystyrene. I. Light-Scattering Studies on Dilute Solutions of Linear Polystyrenes (E/T)—G. C. Berry. 44, 4550 (1966)
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Mobilities of Electrons and Holes in Organic Molecular Solids. Comparison of Band and Hopping Models (T)—R. M. Glaeser and R. Stephen Berry. 44, 3797 (1966)
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Thermoluminescence of Unirradiated MgO and $Mg(OH)_2$ (E)—C. Bettinali and G. Ferraresso. 44, 4646(L) (1966)
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Partial Wave Theory of $H_2$: Calculations of $\Sigma_g^+$ States (T)—A. K. Bhatia and A. Temkin. 44, 3656 (1966)
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Theoretical Estimation of the Conductivity of Different Periodic DNA Models (T)—J. Ladik, G. Biczó, and G. Elek. 44, 483 (1966)
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Optical Properties of Polystyrene in the Vacuum Ultraviolet (E)—J. G. Carter, T. M. Jelinek, R. N. Hamm, and R. D. Birkhoff. 44, 2266 (1966)
BISHOP, David M.
*Ab Initio* Calculation of Harmonic Force Constants (T)—David M. Bishop and Milan Randič. 44, 2480 (1966)

BLACK, Graham
Excited-State Formation and Destruction in Mixtures of Atomic Oxygen and Nitrogen (E)—Robert A. Young and Graham Black. 44, 3741 (1966)
BLAIR, J. C.
High-Field Electron Emission from Indium Arsenide (E)—S. G. Truxillo, J. C. Blair, N. G. Einspruch, and R. Stratton. 44, 1724(L) (1966)
BLAUER, Jay A.
Dissociation Energy of $F_2(g)$ Obtained from the Study of Gas Flow of Intermediate Pressures Through an Orifice (T/E)—R. E. Yates, J. A. Blauer, M. A. Greenbaum, and M. Farber. 44, 498 (1966)
BLINC, R.
NMR Spectrum of a Nearly Linear Five-Spin System: Hydrogen Bonding in $KH_2F_3$ (T/E)—R. Blinc, Z. Trontelj, and B. Volavšek. 44, 1028 (1966)
Nuclear Spin–Lattice Relaxation in Ferroelectric Triglycine Sulfate (E)—R. Blinc, G. Lahajnar, M. Pintar, and I. Zupančič. 44, 1784 (1966)
BLOOMFIELD, Victor
Viscosity, Sedimentation, *et Cetera*, of Ring- and Straight-Chain Polymers in Dilute Solution (T)—Victor Bloomfield and B. H. Zimm. 44, 315 (1966)
BLUNT, R. F.
Optical Absorption of Cobalt in Manganese Fluoride (E)—R. F. Blunt. 44, 2317 (1966)
BLYHOLDER, George
Infrared Spectra and Bonding of CO Adsorbed on Fe (E)—George Blyholder. 44, 3134(L) (1966)
BOCKRIS, J. O'M.
Proton Tunneling in the Hydrogen-Evolution Reaction (T)—J. O'M. Bockris and Dennis B. Matthews. 44, 298 (1966)
Dielectric Relaxation in the Electric Double Layer (T/E)—J. O'M. Bockris, E. Gileadi, and K. Müller. 44, 1445 (1966)
BODILY, D. M.
Ultraviolet Absorption Spectrum of the Allyl Free Radical in Irradiated Polyethylene (E)—D. M. Bodily and M. Dole. 44, 2821(L) (1966)
BOERBOOM, A. J. H.
Gross- and Partial-Ionization Cross Sections for Electrons on Water Vapor in the Energy Range 0.1-20 keV (E)—J. Schutten, F. J. de Heer, H. R. Moustafa, A. J. H. Boerboom, and J. Kistemaker. 44, 3924 (1966)
Partial Ionization Cross Sections of He, Ne, $H_2$, and $CH_4$ for Electrons from 20 to 500 eV (E)—B. Adamczyk, A. J. H. Boerboom, B. L. Schram, and J. Kistemaker. 44, 4640(L) (1966)
BOGGIO, Joseph E.
Theory of Formation of Very Thin Oxide Films on Metals (T/E)—Joseph E. Boggio and Robert C. Plumb. 44, 1081 (1966)
BOGGS, James E.
Microwave Spectrum, Dipole Moment, and Ring-Puckering Vibration of Vinylene Carbonate (E)—K. L. Dorris, C. O. Britt, and J. E. Boggs. 44, 1352 (1966)
BOLTON, J. R.
EPR Spectra of 2,2′-Bipyride Ion (E/T)—J. dos Santos Veiga, W. L. Reynolds, and J. R. Bolton. 44, 2214(L) (1966)
BONACCORSI, R.
Three-Center-Expansion SCF MO for $H_2$ (T)—R. Bonaccorsi, O. Salvetti, E. Scrocco, and J. Tomasi. 44, 4361(L) (1966)
BONE, L. I.
Xenon-Sensitized Radiolysis of Propane (E/T)—L. I. Bone, L. W. Sieck, and J. H. Futrell. 44, 3667 (1966)
BONGERS, P. F.
Ground State of Divalent Co Ions in $Cs_3CoCl_5$ and $Cs_3CoBr_5$ (E)—R. P. van Stapele, H. G. Beljers, P. F. Bongers, and H. Zijlstra. 44, 3719 (1966)
BORGERS, T. R.
Trimethylene Oxide. III. Far-Infrared Spectrum and Double-Minimum Vibration (E/T)—Sunney I. Chan, T. R. Borgers, J. W. Russell, H. L. Strauss, and W. D. Gwinn. 44, 1103 (1966)
BORKMAN, Raymond F.
Electronic-Relaxation Processes in Acetone (E)—Raymond F. Borkman and David R. Kearns. 44, 945 (1966)
BOTTER, R.
Experimental and Theoretical Studies of Photoionization-Efficiency Curves for $C_2H_2$ and $C_2D_2$ (E/T)—R. Botter, V. H. Dibeler, J. A. Walker, and H. M. Rosenstock. 44, 1271 (1966)
BOTTGER, G. L.
Erratum: Infrared Spectra of Crystalline $C_2H_2$, $C_2HD$, and $C_2D_2$ (E/T)—G. L. Bottger and D. F. Eggers, Jr. [40, 2010 (1964)] 44, 4366 (1966)
BOTTOM, Virgil E.
Piezoelectricity in Hexamethylenetetramine (E)—Virgil E. Bottom and Edson Rodrigues. 44, 2201(L) (1966)
BOUTIN, H.
Investigation of the α-Helix–Random-Coil Transition in Polyglutamic Acid by Slow Neutron Scattering (E)—H. Boutin and W. L. Whittemore. 44, 3127(L) (1966)
BOWERS, K. W.
Anomalous ESR Spectrum Spread for Pentacene Anion and Cation Radicals (E)—K. W. Bowers and F. J. Weigert. 44, 416(L) (1966) Erratum: 44, 3645 (1966)
BOWERS, M. T.
Vibration-Rotation Spectra of Monomeric HCl, DCl, HBr, DBr, and HI in the Rare-Gas Lattices and $N_2$-Doping Experiments in the Rare-Gas Lattices (E/T)—M. T. Bowers and W. H. Flygare. 44, 1389 (1966)
BOWERS, V. A.
$^{13}C$ Hyperfine Splittings in the Electron Spin Resonance Spectra of HCO and FCO (E/T)—E. L. Cochran, F. J. Adrian, and V. A. Bowers. 44, 4626 (1966)
BOX, Harold C.
Conformations of the Free Radical in Irradiated α-Aminoisobutyric Acid (E)—Harold C. Box and Harold G. Freund. 44, 2345 (1966)
BRABSON, G. D.
Ultraviolet Fluorescent and Absorption Spectra of $S_2$ Isolated in Inert-Gas Matrices (E)—L. Brewer and G. D. Brabson. 44, 3274 (1966)
BRADY, George W.
Critical Scattering of the Perfluoroheptane–Iso-octane System (E)—G. W. Brady, D. McIntyre, M. E. Myers, Jr., and A. M. Wims. 44, 2197(L) (1966)
BREBRICK, R. F.
Erratum: Partial Pressures in Equilibrium with Group IV Tellurides. III. Germanium Telluride (E)—R. F. Brebrick. [41, 1140 (1965)] 44, 1310 (1966)
BREE, A.
Vibrational Assignment of Anthracene-$d_{10}$ from the Fluorescence and Absorption Spectra (E)—A. Bree, S. Katagiri, and S. R. Suart. 44, 1788 (1966)
BRENNEN, W. R.
Observations on the Yellow Nitrogen Afterglow Bands at Low Pressure and the Radiative Lifetimes of the $B\,^3\Pi_g$ and $A\,^3\Sigma_u^+$ States of Nitrogen (E)—W. Brennen. 44, 1793 (1966)
Reactions of Metal Carbonyls with Active Nitrogen (E)—W. R. Brennen and G. B. Kistiakowsky. 44, 2695 (1966)

BREWER, L.
Ultraviolet Fluorescent and Absorption Spectra of $S_2$ Isolated in Inert-Gas Matrices (E)—L. Brewer and G. D. Brabson. 44, 3274 (1966)

BRIDGE, N. J.
Electric Field Spectra (E)—N. J. Bridge, D. A. Haner, and D. A. Dows. 44, 3128(L) (1966)

BRIGMAN, George H.
Single-Configuration Open-Shell Calculations for the Boron Isoelectronic Sequence (T)—George H. Brigman and Jeremiah N. Silverman. 44, 3136(L) (1966)

BRINCKMAN, F. E.
NMR Studies of Inorganic Fluorides. I. High-Resolution $^{19}F$ Spectra of $Si_2F_6$ and $(SiF_3)_2O$ (E)—R. B. Johannesen, T. C. Farrar, F. E. Brinckman, and T. D. Coyle. 44, 962 (1966)

BRINEN, J. S.
ESR and Phosphorescence Spectra of the Triplet States of Phenyl *s*-Triazines and Phenyl Benzenes. (E/T)—J. S. Brinen, J. G. Koren, and W. G. Hodgson. 44, 3095 (1966)

BRION, C. E.
Mass-Spectrometric Studies of the Rare Gases Using an Electron Velocity Selector (E)—C. E. Brion, D. C. Frost, and C. A. McDowell. 44, 1034 (1966)

BRITT, Chester O.
Microwave Spectrum, Dipole Moment, and Ring-Puckering Vibration of Vinylene Carbonate (E)—K. L. Dorris, C. O. Britt, and J. E. Boggs. 44, 1352 (1966)

BRODALE, G. E.
Heat and Entropy of Hydration of $\alpha$-$NiSO_4 \cdot 6H_2O$ to $NiSO_4 \cdot 7H_2O$. Their Low-Temperature Heat Capacities (E)—J. W. Stout, R. C. Archibald, G. E. Brodale, and W. F. Giauque. 44, 405 (1966)

BROIDA, H. P.
Measurements of Collisional Energy Transfer between Rotational Energy Levels in CN (E)—K. M. Evenson and H. P. Broida. 44, 1637 (1966)

BROKAW, Richard S.
Viscosity and Thermal Conductivity of the $N_2O_4 \rightleftharpoons 2NO_2$ System (T)—Richard S. Brokaw and Roger A. Svehla. 44, 4643(L) (1966)

BROWN, Robert L.
EPR Spectrum of Gas-Phase Sulfur Atoms (E)—Robert L. Brown. 44, 2827(L) (1966)

BROWN, Theodore L.
Correlation of the C–H Stretching Force Constant with the Nuclear $^{13}C$–H Coupling Constant (E/T)—Theodore L. Brown and Janice C. Puckett. 44, 2238 (1966)

BROWNE, J. C.
Oscillator Strengths for the Werner Bands of $H_2$ (T)—J. C. Browne. 44, 835(L) (1966)
Some Potential-Energy Surfaces on $H_3^+$ Computed with Generalized Gaussian Orbitals (T)—A. G. Pearson, R. D. Poshusta, and J. C. Browne. 44, 1815 (1966)
Quantum-Mechanical Potential-Energy Curve for the Lowest $^1\Sigma_u^+$ State of $He_2$ (T)—D. R. Scott, E. M. Greenwalt, J. C. Browne, and F. A. Matsen. 44, 2981 (1966)

BUCARO, J. A.
Hypersonic Velocity Measurements in Liquid Dichloromethane (E)—N. A. Clark, C. E. Moeller, J. A. Bucaro, and E. F. Carome. 44, 2528(L) (1966)

BUCHANAN, James W.
Kinetics of Ionic Processes in the Radiolysis of Liquids. II. Proton Transfer from Cyclohexane Ions to Ethanol (E/T)—James W. Buchanan and Ffrancon Williams. 44, 4377 (1966)

BUCHANAN, R. A.
Infrared Absorption of $Ce^{3+}$ in $LaF_3$ and of $CeF_3$ (E)—R. A. Buchanan, H. E. Rast, and H. H. Caspers. 44, 4063 (1966)

BUR, Anthony J.
Rodlike Behavior of Poly(*n*-butyl)isocyanate from Dielectric Measurements (E)—Hyuk Yu, A. J. Bur, and L. J. Fetters. 44, 2568 (1966)

BURCH, D. S.
Use of $O_2$ for ESR Calibration for Quantitative Measurement of Gas Concentrations (E)—K. M. Evenson and D. S. Burch. 44, 1715(L) (1966)

BURNS, Richard P.
Systematics of the Evaporation Coefficient $Al_2O_3$, $Ga_2O_3$, $In_2O_3$ (E)—Richard P. Burns. 44, 3307 (1966)
Field-Induced Quantum States at a Surface (E/T)—A. J. Jason, R. P. Burns, A. C. Parr, and M. G. Inghram. 44 4351(L) (1966)

BURR, John G.
On the Thermal-Spike Model of Low LET Radiolysis (E)—John Y. Yang and John G. Burr. 44, 1307(L) (1966)

BUSCHERT, R. C.
Atomic Structure and Correlation in Liquid Binaries by X-Ray and Neutron Diffraction with Application to NaK (E/T)—E. H. Henninger, R. C. Buschert, and L. Heaton. 44, 1758 (1966)

BUSH, S. F.
Vibrational Spectrum of Hydrazine-$d_4$ and a Raman Study of Hydrogen Bonding in Hydrazine (E)—J. R. Durig, S. F. Bush, and E. E. Mercer. 44, 4238 (1966)

BYERS BROWN, W.
Double-Perturbation Treatment of the Ground State of the Hydrogen Molecule (T)—B. Liu, W. D. Lyon, and W. Byers Brown. 44, 562 (1966)
Perturbation Theory of the Constrained Variational Method in Molecular Quantum Mechanics (T)—W. Byers Brown. 44, 567 (1966)
On the Electronic Energy of a One-Electron Diatomic Molecule near the United Atom (T)—W. Byers Brown and Erich Steiner. 44, 3934 (1966)

BYRON, Stanley
Shock-Tube Measurement of the Rate of Dissociation of Nitrogen (E)—Stanley Byron. 44, 1378 (1966)

CADE, Paul E.
Electronic Structure of Diatomic Molecules. III.A. Hartree-Fock Wavefunctions and Energy Quantities for $N_2(X\,^1\Sigma_g^+)$ and $N_2^+(X\,^2\Sigma_g^+, A\,^2\Pi_u, B\,^2\Sigma_u^+)$ Molecular Ions (T)—P. E. Cade, K. D. Sales, and A. C. Wahl. 44, 1973 (1966)

CALIFANO, S.
Crystal Spectra in Polarized Light, Vibrational Assignment, and Force-Constant Calculations of Phenanthrene (E/T)—V. Schettino, N. Neto, and S. Califano. 44, 2724 (1966)

CAMPBELL, I. D.
Distribution of Charge on the Azide Ion in $NaN_3$ (E/T)—I. D. Campbell and C. K. Coogan. 44, 2075 (1966)

CANER, Marc
Jahn-Teller Effect on a Triplet due to Threefold Degenerate Vibrations (T)—Marc Caner and Robert Englman. 44, 4054(L) (1966)

CANTONE, B.
Decomposition Processes and Fragmentation Probabilities of $W(CO)_6$ by Electron Impact (E)—B. Cantone, F. Grasso, and S. Pignataro. 44, 3115 (1966)

CAPPS, W.
Two-State Model for the Free Volume of Vitreous $B_2O_3$ (T/E)—P. B. Macedo, W. Capps, and T. A. Litovitz. 44, 3357 (1966)

CARLETON, N. P.
Chemisorption of Electronegative Gases on Refractory Metals (E)—Marion L. Shaw and N. P. Carleton. 44, 3387 (1966)

CARLSON, Gary A.
Infrared Detection of Gaseous Trifluoromethyl Radical (E)—Gary A. Carlson and George C. Pimentel. 44, 4053(L) (1966)

CARLSON, K. Douglas
Electronic Ground State and Wavefunctions for Vanadium Monoxide (T)—K. Douglas Carlson and Carl Moser. 44, 3259 (1966)

CARLSON, Thomas A.
Measurement of the Relative Abundances and Recoil-Energy Spectra of Fragment Ions Produced as the Initial Consequences of X-Ray Interaction with $CH_3I$, HI, and DI (E)—Thomas A. Carlson and R. Milford White. 44, 4510 (1966)

CAROME, E. F.
Hypersonic Velocity Measurements in Liquid Dichloromethane (E)—N. A. Clark, C. E. Moeller, J. A. Bucaro, and E. F. Carome. 44, 2528(L) (1966)

CARPER, W. R.
Study of the DMSO–TCNE Charge-Transfer Complex and Its Kinetics (E)—F. E. Stewart, M. Eisner, and W. R. Carper. 44, 2866 (1966)

CARRINGTON, Alan
Electron Resonance Studies of Free Radicals in the Gas Phase. Detection of ClO, BrO, and NS (E)—Alan Carrington and Donald H. Levy. 44, 1298(L) (1966)

CARROLL, D. G.
Semiempirical Molecular Orbital Calculations. I. The Electronic Structure of $H_2O$ and $H_2S$ (T)—D. G. Carroll, A. T. Armstrong, and S. P. McGlynn. 44, 1865 (1966)

CARTER, J. G.
Optical Properties of Polystyrene in the Vacuum Ultraviolet (E)—J. G. Carter, T. M. Jelinek, R. N. Hamm, and R. D. Birkhoff. 44, 2266 (1966)

CASHION, I. K.
Intermolecular Potentials and the Infrared Spectrum of the Molecular Complex $(H_2)_2$ (T)—R. G. Gordon and I. K. Cashion. 44, 1190 (1966)

CASPERS, H. H.
Infrared Absorption of $Ce^{3+}$ in $LaF_3$ and of $CeF_3$ (E)—R. A. Buchanan, H. E. Rast, and H. H. Caspers. 44, 4063 (1966)

CASSANOVA, R. A.
NO–O Chemiluminescent Reaction in a Low-Density Wind Tunnel (E)—F. P. DelGreco, D. Golomb, J. A. van der Blick, R. A. Cassanova, and R. E. Good. 44, 4349(L) (1966)

CASTELLI, Alex
Valence Force Field of $CX_3YZ_2$ and the Vibrational Spectra of $CF_3NO_2$, $CCl_3NO_2$, and $CBr_2NO_2$ (T)—A. Castelli, A. Palm, and C. Alexander, Jr. 44, 1577 (1966)

CASTRO, George
Singlet-Triplet Absorption Spectra of Single Crystals of the *p*-Dihalogenated Benzenes (E)—George Castro and Robin M. Hochstrasser. 44, 412(L) (1966)

CATER, E. David
On the Calibration of the Mass Spectrometer for Measurement of Partial Vapor Pressures (T)—E. David Cater and R. J. Thorn. 44, 1342 (1966)
Uranium Monosulfide. III. Thermochemistry, Partial Pressures, and Dissociation Energies of US and $US_2$ (E)—E. D. Cater, E. G. Rauh, and R. J. Thorn. 44, 3106 (1966)

CELITANS, G. J.
Oxygen and Nitric Oxide Quenching of Positronium in Liquids (E)—John Lee and G. J. Celitans. 44, 2506 (1966)

ČERMÁK, V.
Detection of Long-Lived Excited States of Molecules by Penning Ionization (E)—V. Čermák. 44, 1318 (1966)
Individual Efficiency Curves for the Excitation of $2^3S$ and $2^1S$ States of Helium by Electron Impact (E)—V. Čermák. 44, 3774 (1966)
Retarding-Potential Measurement of the Kinetic Energy of Electrons Released in Penning Ionization (E)—V. Čermák. 44, 3781 (1966)

CHAKRABORTI, P. K.
Intermolecular Potential of Radon (T)—P. K. Chakraborti. 44, 3137(L) (1966)

CHALMERS, J. S.
Hyperfine Coupling Constants of 2,2-Bis-*p*-nitrophenyl-1-picrylhydrazyl (E/T)—J. S. Chalmers and Y. W. Kim. 44, 112 (1966)
Nuclear Hyperfine Coupling Constants of Diphenyl Picryl Hydrazyl (E/T)—Y. W. Kim and J. S. Chalmers. 44, 3591 (1966)

CHAMBERLAIN, G. E.
Resonances in the Elastic and Inelastic Electron Scattering from $N_2$ (E)—H. G. M. Heideman, C. E. Kuyatt, and G. E. Chamberlain. 44, 355 (1966)
Inelastic Electron Scattering from $H_2$ (E)—H. G. M. Heideman, C. E. Kuyatt, and G. E. Chamberlain. 44, 440 (1966)

CHAN, Alice
On the Photochemistry of Substituted Anthraquinones (E)—Henry H. Dearman and Alice Chan. 44, 416(L) (1966)

CHAN, R. K.
Erratum: Effect of Pressure on the Dielectric Properties of Ice I (E/T)—R. K. Chan, D. W. Davidson, and E. Whalley. [43, 2376 (1965)] 44, 2221 (1966)

CHAN, Sunney I.
Trimethylene Oxide. III. Far-Infrared Spectrum and Double-Minimum Vibration (E/T)—Sunney I. Chan, T. R. Borgers, J. W. Russell, H. L. Strauss, and W. D. Gwinn. 44, 1103 (1966)
Energy Levels and Crystal-Field Splittings of $Nd^{3+}$ in Yttrium Oxide (E)—N. C. Chang. 44, 4044 (1966)

CHARLES, R. G.
Energy Transfer between *p*-Benzoylbenzoate and Europium Ethylenediaminetetraacetate in Water Solution (E)—R. G. Charles, E. P. Riedel, and P. G. Haverlack. 44, 1356 (1966)

CHARLES, Stuart W.
Hydrogen Bonding of Hydrazoic Acid in Solid Nitrogen (E)—G. C. Pimentel, S. W. Charles, and K. Rosengren. 44, 3029 (1966)

CHAU, J. Y. H.
Electronic Raman Spectrum of $Ce^{3+}/CaWO_4$ at 77° and 2.2°K (E)—J. Y. H. Chau. 44, 1708(L) (1966)

CHAUDHURI, N. K.
Host-Crystal Effects on the Mechanism of the $\pi, \pi^*$ Phosphorescence. II. N-Heterocyclics (E)—N. K. Chaudhuri and M. A. El-Sayed. 44, 3728 (1966)

CHEN, J. C. Y.
Reliability of Variational Double-Perturbation Procedure for Molecules (T)—J. C. Y. Chen and S. Ehrenson. 44, 1020 (1966)

CHONG, D. P.
Constrained-Variation Method in Molecular Quantum Mechanics. Comparison of Different Approaches (T)—D. P. Chong and Yecheskel Rasiel. 44, 1819 (1966)

CHRISTOPHOROU, L. G.
Interaction of Thermal Electrons with Polarizable and Polar Molecules (E/T)—L. G. Christophorou, G. S. Hurst, and A. Hadjiantoniou. 44, 3506 (1966)

CHU, B.
Critical Opalescence of the Polystyrene–Cyclohexane System: Small-Angle X-Ray Scattering (E/T)—P. Debye, J. Bashaw, B. Chu, and D. M. Tan Creti. 44, 4302 (1966)

CHUNG, H. S.
On the Macedo-Litovitz Hybrid Equation for Liquid Viscosity (T)—H. S. Chung. 44, 1362 (1966)

CLAASSEN, Howard H.
Infrared Spectra of $VOF_3$ and $POF_3$ (E)—Henry Selig and Howard H. Claassen. 44, 1404 (1966)
Vibrational Spectra of Vanadium Pentafluoride (E)—Howard H. Claassen and Henry Selig. 44, 4039 (1966)

CLARK, N. A.
Hypersonic Velocity Measurements in Liquid Dichloromethane (E)—N. A. Clark, C. E. Moeller, J. A. Bucaro, and E. F. Carome. 44, 2528(L) (1966)

CLELAND, W. E.
Muonium Chemistry (E)—R. M. Mobley, J. M. Bailey, W. E. Cleland, V. W. Hughes, and J. E. Rothberg. 44, 4354(L) (1966)

CLEMENTI, E.
Correlation Energy in Atomic Systems. IV. Degeneracy Effects (T)—E. Clementi and A. Veillard. 44, 3050 (1966)

CLENDENEN, R. L.
Lattice Parameters of Nine Oxides and Sulfides as a Function of Pressure (E)—R. L. Clendenen and H. G. Drickamer. 44, 4223 (1966)
Effect of High Pressure on the Compressibilities of Five Alloys (E)—R. L. Clendenen and H. G. Drickamer. 44, 4385 (1966)

CLOSS, Gerhard
Optical Absorption Spectra of Substituted Methylenes Oriented in Single Crystals (E)—G. Closs, C. A. Hutchison Jr., and B. E. Kohler. 44, 413(L) (1966)

CLOUGH, Shepard A.
Coriolis Interaction in the $\nu_1$ and $\nu_3$ Fundamentals of Ozone (T/E)—Shepard A. Clough and Francis X. Kneizys. 44, 1855 (1966)
Reduction of the Fourth-Order Asymmetric-Rotor Hamiltonian (T)—F. X. Kneizys, J. N. Freedman, and S. A. Clough. 44, 2552 (1966)

COBAS, Amador
Detection of Radiation Damage in Anthracene Crystals by Space-Charge-Limited Current Measurements (E)—S. Z. Weisz, A. Cobas, P. E. Richardson, H. H. Szmant, and S. Trester. 44, 1364 (1966)

COCHRAN, E. L.
$^{13}C$ Hyperfine Splittings in the Electron Spin Resonance Spectra of HCO and FCO (E/T)—E. L. Cochran, F. J. Adrian, and V. A. Bowers. 44, 4626 (1966)

CODLING, K.
Structure in the Photoionization Continuum of $SF_6$ below 630 Å (E)—K. Codling. 44, 4401 (1966)

COFFMAN, Robert E.
Operator Form for the Linear and Quadratic Jahn-Teller Coupling in Octahedrally Coordinated $E_g$ Electronic States (T)—Robert E. Coffman. 44, 2305 (1966)

COHEN, Alvin J.
Postulated Structures Causing the Optical Color Center Bands in Amethyst Quartz (E)—M. Schlesinger and Alvin J. Cohen. 44, 3146(L) (1966)

COHEN, E. R.
On the Melting of Copolymeric DNA (T)—H. Reiss, D. A. McQuarrie, J. P. McTague, and E. R. Cohen. 44, 4567 (1966)

COHEN, Lewis H.
Melting of Iodine at High Pressures (E)—W. Klement, Jr., L. H. Cohen, and G. C. Kennedy. 44, 3697 (1966)

COLE, G. H. A.
Consistent Fourth Virial Coefficient for a Square-Well Potential Gas (T)—G. H. A. Cole. 44, 338 (1966)

COLE, R. H.
Dielectric Relaxation in Liquid *n*-Octyl Iodide (E)—F. I. Mopsik and R. H. Cole. 44, 1015 (1966)

COLEBURN, N. L.
Hugoniot Equations of State of Several Unreacted Explosives (E)—N. L. Coleburn and T. P. Liddiard, Jr. 44, 1929 (1966)

COMBS, L. L.
Proton Coupling Constants in Cyclobutanone (T/E)—L. L. Combs and L. K. Runnels. 44, 2209(L) (1966)

COMEFORD, J. J.
Infrared Spectrum of the Free Radical $CF_3$ Isolated in Inert Matrices (E)—D. E. Milligan, M. E. Jacox, and J. J. Comeford. 44, 4058(L) (1966)

CONDIFF, Duane W.
Brownian Motion of Polyatomic Molecules: The Coupling of Rotational and Translational Motions (T)—Duane W. Condiff and John S. Dahler. 44, 3988 (1966)

CONNICK, Robert E.
Oxygen-17 Nuclear Magnetic Resonance Study of the Hydration Shell of Nickelous Ion (E)—Robert E. Connick and Daniel Fiat. 44, 4103 (1966)

CONSIDINE, William J.
Nuclear Quadrupole Coupling Constants and the Ionic Character of Covalent Bonds (T)—William J. Considine. 44, 4036 (1966)

CONSTABARIS, G.
Second Virial Coefficient of Xe at 25°C (E)—C. M. Greenlief and G. Constabaris. 44, 4649(L) (1966)

CONWAY, John G.
Energy Levels of $Pu^{3+}$ in Lanthanum Trichloride (T/E)—John G. Conway and K. Rajnak. 44, 348 (1966)

COOGAN, C. K.
Distribution of Charge on the Azide Ion in $NaN_3$ (E/T)—I. D. Campbell and C. K. Coogan. 44, 2075 (1966)

COOK, D. B.
Analytical Wavefunctions of $^2D$ States of Lithium Isoelectronic Sequence (T)—D. B. Cook and M. A. Ali. 44, 4121 (1966)

COOK, Earl L.
Hauffe-Ilschner Transition during Thermal Oxidation (T)—A. T. Fromhold, Jr., and Earl L. Cook. 44, 4564 (1966)

COOK, G. R.
Absorption, Photoionization, and Fluorescence of $CO_2$ (E)—G. R. Cook, P. H. Metzger, and M. Ogawa. 44, 2935 (1966)

COOPE, J. A. R.
Formulation of Resonance Conditions (T)—J. A. R. Coope. 44, 4431 (1966)

COOPER, John L., Jr.
Electron-Impact Ionization Cross Sections for Atoms (E)—J. L. Cooper, Jr., G. A. Pressley, Jr., and F. E. Stafford. 44, 3946 (1966)

CORDISCHI, D.
Main-Chain Scission and ESR Spectra of Irradiated Polytetrafluoroethylene Oxide (E)—P. Barnaba, D. Cordischi, A. Delle Site, and A. Mele. 44, 3672 (1966)

CORNWELL, C. D.
Interpretation of the Chemical Shift of ClF (T)—C. D. Cornwell. 44, 874 (1966)
CORVAJA, Carlo
Restricted Motion of β Protons of the HOOC–$CH_2$–ĊH–COOH Radical Trapped in Urea Crystals (E/T)—Carlo Corvaja. 44, 1958 (1966)
COSGAREA, Andrew, Jr.
Study of the Vapors of Liquid Lead and Bismuth (E)—Jang H. Kim and Andrew Cosgarea, Jr. 44, 806 (1966)
COSSEE, P.
Vibrational Analysis of Acetone, Acetaldehyde, and Formaldehyde (T/E)—P. Cossee and J. H. Schachtschneider. 44, 97 (1966)
COULSON, C. A.
Force Fields in $KrF_2$ and $XeF_2$ (T/E)—C. A. Coulson. 44, 468 (1966)
COWEN, J. A.
EPR of $Co^{2+}$ in Magnesium Acetate·$4H_2O$ (E)—J. A. Cowen and G. T. Johnston. 44, 2217(L) (1966)
COX, A. Peter
Microwave Spectrum, Internal Barrier, Molecular Structure, and Dipole Moment of Disilanyl Fluoride (E/T)—A. Peter Cox and Ravi Varma. 44, 2619 (1966)
COX, H. L., Jr.
Molecular Structure of Gaseous Hexachloro- and 1,2,4,5-Tetrachlorobenzene as Determined by Electron Diffraction (E)—T. G. Strand and H. L. Cox, Jr. 44, 2426 (1966)
COYLE, T. D.
NMR Studies of Inorganic Fluorides. I. High-Resolution $^{19}F$ Spectra of $Si_2F_6$ and $(SiF_3)_2O$ (E)—R. B. Johannesen, T. C. Farrar, F. E. Brinckman, and T. D. Coyle. 44, 962 (1966)
CRESS, M. C.
Pulsed-Mass-Spectrometric Study of the Bimolecular Formation of $N_3^+$ (E)—M. C. Cress, P. M. Becker, and F. W. Lampe. 44, 2212(L) (1966)
CROMER, D. T.
Crystal Structure by Neutron Diffraction and the Antiferroelectric Phase Transition in Copper Formate Tetrahydrate (E)—K. Okada, M. I. Kay, D. T. Cromer, and I. Almodovar. 44, 1648 (1966)
CROUTHAMEL, Carl E.
Studies of Lithium Hydride Systems. II. Solid-Liquid Equilibrium in the Sodium Chloride-Lithium Hydride System (E)—C. E. Johnson, S. E. Wood, and C. E. Crouthamel. 44, 880 (1966)
Studies of Lithium Hydride Systems. III. Solid-Liquid Equilibrium in the Lithium Bromide-Lithium Hydride and Lithium Iodide-Lithium Hydride Systems (E/T)—C. E. Johnson, S. E. Wood, and C. E. Crouthamel. 44, 884 (1966)
CSIZMADIA, I. G.
LCAO–MO–SCF Calculations on LiH Using Gaussian Basis Set (T)—I. G. Csizmadia. 44, 1849 (1966)
CUMMINS, Herman Z.
Rayleigh and Brillouin Scattering in Liquids: The Landau-Placzek Ratio (E/T)—Herman Z. Cummins and Robert W. Gammon. 44, 2785 (1966)
CUNNINGHAM, Paul T.
Fluorescence Lifetime and Fluorescence Enhancement of Perylene Vapor (E)—William R. Ware and Paul T. Cunningham. 44, 4364(L) (1966)
CURL, R. F., Jr.
Microwave Spectrum of Methylazide (E)—William M. Salathiel and R. F. Curl, Jr. 44, 1288 (1966)
Spin Statistics Isomerization in Methane (T/E)—R. F. Curl, Jr., J. V. V. Kasper, K. S. Pitzer, and K. Sathianandan. 44, 4636(L) (1966)
CURTISS, C. F.
Low-Energy Atomic Collisions. I. The Schrödinger Equation for $H^+$–H (T)—Donald J. Kouri and C. F. Curtiss. 44, 2120 (1966)
Numerical Evaluation of Barrier Penetration and Resonance Effects on Phase Shifts (T)—R. B. Bernstein, C. F. Curtiss, S. Imam-Rahajoe, and H. T. Wood. 44, 4072 (1966)
CUSACHS, Louis Chopin
Selection of Molecular Matrix Elements from Atomic Data. II (T)—L. C. Cusachs, J. W. Reynolds, and D. Barnard. 44, 835(L) (1966)
CUSSLER, E. L., Jr.
Comment: Ternary Diffusion Described by Intrinsic Diffusion Coefficients (T)—E. L. Cussler, Jr. 44, 2829(L) (1966)
CVETANOVIĆ, R. J.
Erratum: Reaction of Oxygen Atoms with Acetaldehyde (E)—H. E. Avery and R. J. Cvetanović. [43, 3727 (1965)] 44, 3150 (1966)
DAANE, A. H.
High-Temperature Heat Contents and Related Thermodynamic Functions of Eight Rare-Earth Metals: Sc, Gd, Tb, Dy, Ho, Er, Tm, and Lu (E)—D. H. Dennison, K. A. Gschneidner, Jr., and A. H. Daane. 44, 4273 (1966)
DAFFORN, Geoffrey A.
Anisotropic Rotational Relaxation in Rigid Media by Polarized Photoselection (E/T)—John R. Lombardi and Geoffrey A. Dafforn. 44, 3882 (1966)
DAGONNIER, R.
On Brownian Motion in a Fermi Fluid (T)—H. Ted Davis and R. Dagonnier. 44, 4030 (1966)
DAHLER, John S.
Transport Properties of Polyatomic Fluids. II. A Dilute Gas of Spherocylinders (T)—Stanley I. Sandler and John S. Dahler. 44, 1229 (1966)
Physical-Cluster Theory for a Reactive Gas (T)—Craig Lawson and John S. Dahler. 44, 1456 (1966)
Brownian Motion of Polyatomic Molecules: The Coupling of Rotational and Translational Motions (T)—Duane W. Condiff and John S. Dahler. 44, 3988 (1966)
Transport Properties of Polyatomic Fluids. III. The Transport-Relaxation Equations for a Dilute Gas of Rough Spheres (T)—Ian L. McLaughlin and John S. Dahler. 44, 4453 (1966)
DALE, F.
Fast Ion-Molecule Reaction in $CO_2$ (E)—J. F. Paulson, R. L. Mosher, and F. Dale. 44, 3025 (1966)
DALTON, B. J.
Classification of Rotational Energy Levels for Linear Molecules (T)—B. J. Dalton. 44, 4406 (1966)
DALTON, L. R.
Correlated EPR-Optical Spectra of Potassium in Ethylamine–Ammonia Mixtures (E)—L. R. Dalton, J. D. Rynbrandt, E. M. Hansen, and J. L. Dye. 44, 3969 (1966)
DANON, J.
Electron Spin Resonance Studies of Chromium Nitrosyl Complexes (E/T)—J. Danon, H. Panepucci, and A. A. Misetich. 44, 4154 (1966)
DANTI, Alfred
Normal-Coordinate Analysis and Molecular Properties of Four $CH_2XY$ Halomethanes (X = F or I; Y = Cl or Br) (T)—M. Z. El-Sabban, A. Danti, and B. J. Zwolinski. 44, 1770 (1966)

DARDY, Henry D.
Vibrational Relaxation in Liquid Dibromomethane (E)—Joseph L. Hunter and Henry D. Dardy. 44, 3637(L) (1966)
DARVEY, I. G.
Stochastic Approach to First-Order Chemical Reaction Kinetics (T)—I. G. Darvey and P. J. Staff. 44, 990 (1966)
DAS, G.
Extended Hartree-Fock Wavefunctions: Optimized Valence Configurations for $H_2$ and $Li_2$, Optimized Double Configurations for $F_2$ (T)—G. Das and Arnold C. Wahl. 44, 87 (1966)
DATZ, Sheldon
Alkali-Atom-Halogen-Molecule Reactions in Molecular Beams; The Spectator Stripping Model (E/T)—R. E. Minturn, S. Datz, and R. L. Becker. 44, 1149 (1966)
DAVIDSON, D. W.
Erratum: Effect of Pressure on the Dielectric Properties of Ice I (E/T)—R. K. Chan, D. W. Davidson, and E. Whalley. [43, 2376 (1965)] 44, 2221 (1966)
DAVIDSON, Ernest R.
Hydrogen-Molecule Excited States: $^1\pi_u$ (T)—Stephen Rothenberg and Ernest R. Davidson. 44, 730 (1966)
DAVIS, C. M., Jr.
Vibrational Relaxation and Volume Viscosity in Carbon Tetrachloride (E)—T. A. Litovitz and C. M. Davis, Jr. 44, 840(L) (1966)
DAVIS, H. Ted
On Brownian Motion in a Fermi Fluid (T)—H. Ted Davis and R. Dagonnier. 44, 4030 (1966)
DEARMAN, Henry H.
On the Photochemistry of Substituted Anthraquinones (E)—Henry H. Dearman and Alice Chan. 44, 416(L) (1966)
Triplet-Triplet Absorption in Anthraquinone (E)—W. C. Neely and H. H. Dearman. 44, 1302(L) (1966)
EPR Studies of Defect Sites in Thulium Ethylsulfate Crystals (E)—Henry H. Dearman. 44, 2218(L) (1966)
DeARMOND, Keith
Paramagnetic Resonance Studies of Bonding in $[CrCl_5(H_2O)]^2$ (T/E)—B. B. Garrett, K. DeArmond, and H. S. Gutowsky. 44, 3393 (1966)
DE BOER, E.
NMR Study of Electron Transfer Rates and Spin Densities in *p*-Xylene and *p*-Diethylbenzene Anions (E)—E. de Boer and C. MacLean. 44, 1334 (1966)
DEBYE, P.
Critical Opalescence of the Polystyrene–Cyclohexane System: Small-Angle X-Ray Scattering (E/T)—P. Debye, J. Bashaw, B. Chu, and D. M. Tan Creti. 44, 4302 (1966)
DeCARLO, V. J.
Vacuum-Ultraviolet Photochemistry. V. Molecular Elimination of Nitrogen in the Photolysis of Hydrazine (E)—L. J. Stief and V. J. DeCarlo. 44, 4638(L) (1966)
DECIOUS, Daniel R.
Variation-Perturbation Treatment of Electron Correlation in Molecules (T)—Bernard Kirtman and Daniel R. Decious. 44, 830(L) (1966)
DECIUS, J. C.
Ultrasonic Dispersion Observed by Optical Diffraction. II. Ammonia (E)—J. G. Strauch, Jr., and J. C. Decius. 44, 3319 (1966)
DE HEER, F. J.
Absolute Gross Ionization Cross Sections for Electrons (0.6-12 keV) in Hydrocarbons (E)—B. L. Schram, M. J. van der Wiel, F. J. de Heer, and H. R. Moustafa. 44, 49 (1966)
Gross- and Partial-Ionization Cross Sections for Electrons on Water Vapor in the Energy Range 0.1-20 keV (E)—J. Schutten, F. J. de Heer, H. R. Moustafa, A. J. H. Boerboom, and J. Kistemaker. 44, 3924 (1966)
DeKOCK, C. W.
Electronic Absorption Spectra of the Gaseous 3*d* Transition-Metal Dichlorides (E)—C. W. DeKock and C. M. Gruen. 44, 4387 (1966)
DelGRECO, F. P.
NO–O Chemiluminescent Reaction in a Low-Density Wind Tunnel (E)—F. P. DelGreco, D. Golomb, J. A. van der Blick, R. A. Cassanova, and R. E. Good. 44, 4349(L) (1966)
DELLE SITE, A.
Main-Chain Scission and ESR Spectra of Irradiated Polytetrafluoroethylene Oxide (E)—P. Barnaba, D. Cordischi, A. Delle Site, and A. Mele. 44, 3672 (1966)
DE MARIA, G.
Dissociation Energy of the Gaseous AlP Molecule (E/T)—G. De Maria, K. A. Gingerich, L. Malaspina, and V. Piacente. 44, 2531(L) (1966)
DEMIEL, A.
Fluorine–Carbon-13 Spin-Spin Coupling Constants of Some Bromofluoroethylenes (E)—J. Reuben and A. Demiel. 44, 2216(L) (1966)
DeMORE, W. B.
Primary Processes in Ozone Photolysis (E)—W. B. DeMore and O. F. Raper. 44, 1780 (1966)
DENNEY, D. J.
Dielectric and Viscous Behavior in the *i*-Amyl Bromide–2-Methylpentane System (E)—D. J. Denney and J. W. Ring. 44, 4621 (1966)
DENNISON, D. H.
High-Temperature Heat Contents and Related Thermodynamic Functions of Eight Rare-Earth Metals: Sc, Gd, Tb, Dy, Ho, Er, Tm, and Lu (E)—D. H. Dennison, K. A. Gschneidner, Jr., and A. H. Daane. 44, 4273 (1966)
DE ROCCO, Andrew G.
Nonadditivity of Intermolecular Forces: Effects on the Third Virial Coefficient (T)—A. E. Sherwood, Andrew G. De Rocco, and E. A. Mason. 44, 2984 (1966)
DESAI, Rashmi C.
Non-Gaussian Corrections to Van Hove's $G_S(r, t)$ for a Monatomic Gas (T)—Rashmi C. Desai. 44, 77 (1966)
DESLATTES, Richard D.
*K*-Absorption Fine Structures of Sulfur in Gaseous $SF_6$ (E)—Robert E. LaVilla and Richard D. Deslattes. 44, 4399 (1966)
DEUTCH, J. M.
Quantum Statistical Mechanics of Isotope Effects. II. The Surface Tension and Internal Energy (T)—J. M. Deutch, J. L. Kinsey, and I. Oppenheim. 44, 2270 (1966)
Nuclear Spin Relaxation in Gases and Liquids. V. Liquid Hydrogen (T)—J. M. Deutch and I. Oppenheim. 44, 2843 (1966)
Erratum: On the Detectability of the Quadratic NMR Electric-Field Effect in Liquids (T)—J. M. Deutch and J. S. Waugh. [43, 2568 (1965)] 44, 4366 (1966)
DEVLIN, J. Paul
Infrared Spectrum of Molten Silver Nitrate (E)—J. P. Devlin, K. Williamson, and G. Austin. 44, 2203(L) (1966)
DEWAR, Michael J. S.
Ground States of Conjugated Molecules. VII. Compounds Containing Nitrogen and Oxygen (T)—Michael J. S. Dewar and Gerald Jay Gleicher. 44, 759 (1966)

DE WIJN, H. W.
**Effect of Quenching of Polarizations in Polar Diatomic Molecules on Nuclear-Quadrupole Coupling, Its Vibrational Dependence, and Molecular Dipole Moments (T)**—H. W. de Wijn. 44, 810 (1966)

DeWITT, R.
**Capillary Viscometry: Analysis of Kinetic Energy and Hydrostatic Head Corrections and a More Exact Calculation (E/T)**—R. E. Wellman, R. DeWitt, and R. B. Ellis. 44, 3070 (1966)

DIBELER, Vernon H.
Experimental and Theoretical Studies of Photoionization-Efficiency Curves for $C_2H_2$ and $C_2D_2$ (E/T)—R. Botter, V. H. Dibeler, J. A. Walker, and H. M. Rosenstock. 44, 1271 (1966)
Photoionization Efficiency Curve for $SF_6$ in the Wavelength Region 1050 to 600 Å (E)—Vernon H. Dibeler and James A. Walker. 44, 4405 (1966)

DIEHL, P.
NMR Subspectral Analysis Applied to Polyfluorobenzenes $C_6H_nF_{6-n}$. I. 1,2,3,5-Tetrafluorobenzene (T/E)—E. Lustig and P. Diehl. 44, 2974 (1966)

DIEPEN, G. A. M.
Gas–Gas Equilibria (T)—J. de Swaan Arons and G. A. M. Diepen. 44, 2322 (1966)

DIERCKSEN, G.
Self-Consistent Perturbation Theory. I. General Formulation and Some Applications (T)—G. Diercksen and R. McWeeny. 44, 3554 (1966)

DIESEN, R. W.
Mass-Spectral Studies of Kinetics behind Shock Waves. III. Thermal Dissociation of Fluorine (E)—R. W. Diesen. 44, 3662 (1966)

DILLER, Dwain E.
**Low-Temperature Transport Properties of Gaseous $H_2$, $D_2$, and HD (T)**—Dwain E. Diller and E. A. Mason. 44, 2604 (1966)

DILLON, I. G.
Measurement of Densities and Estimation of Critical Properties of the Alkali Metals (E/T)—I. G. Dillon, P. A. Nelson, and B. S. Swanson. 44, 4229 (1966)

DIXON-LEWIS, G.
Studies of Hydroxyl Radical Kinetics by Quantitative ESR (E)—G. Dixon-Lewis, W. E. Wilson, and A. A. Westenberg. 44, 2877 (1966)

DOEPKER, R. D.
Gas-Phase Radiolysis of Cyclobutane (E)—R. D. Doepker and P. Ausloos. 44, 1641 (1966)
Gas-Phase Radiolysis of Cyclopentane. Relative Rates of $H_2^-$-Transfer Reactions from Various Hydrocarbons to $C_3H_6^+$ (E)—R. D. Doepker and P. Ausloos. 44, 1951 (1966)
Photoionization of Propylene at 1236 Å. Reactions of $C_3D_6^+$ with Added Alkanes (E)—R. Gorden, Jr., R. Doepker, and P. Ausloos. 44, 3733 (1966)

DOLE, M.
Ultraviolet Absorption Spectrum of the Allyl Free Radical in Irradiated Polyethylene (E)—D. M. Bodily and M. Dole. 44, 2821(L) (1966)

DONALDSON, E. E.
Adsorption of Thermally Activated Nitrogen (E/T)—Sherman B. Nornes and E. E. Donaldson. 44, 2968 (1966)

DONDES, S.
**Photochemical Production of $C_3O_2$ from CO (T)**—G. Liuti, S. Dondes, and P. Harteck. 44, 4051(L) (1966)
Isotopic Enrichment in the Photochemistry of CO with the 2062-Å Iodine Line (E/T)—G. Liuti, S. Dondes, and P. Harteck. 44, 4052(L) (1966)

DONFOR, A. R., Jr.
Ultrasonic Shear and Longitudinal Measurements in Aqueous Glycerol (E)—W. M. Slie, A. R. Donfor, Jr., and T. A. Litovitz. 44, 3712 (1966)

DORER, F. H.
Intramolecular Energy Relaxation. Butyl Radical Decomposition at High Pressure (E)—D. W. Placzek, B. S. Rabinovitch, and F. H. Dorer. 44, 279 (1966)

DORMAN, E.
Concentration Broadening and Oscillator Strengths in $Pr:LaCl_3$ (E/T)—E. Dorman. 44, 2910 (1966)

DORMAN, F. H.
First Differential Ionization Efficiency Curves for Fragment Ions by Electron Impact (E)—F. H. Dorman. 44, 35 (1966)
Negative Fragment Ions from Resonance Capture Processes (E)—F. H. Dorman. 44, 3856 (1966)

DORRIS, Kenneth L.
Microwave Spectrum, Dipole Moment, and Ring-Puckering Vibration of Vinylene Carbonate (E)—K. L. Dorris, C. O. Britt, and J. E. Boggs. 44, 1352 (1966)

DOUGLAS, Frank C.
Relationship Between Magnetic Curie Points and Cell Sizes of Solid Solutions with the Ordered Perovskite Structure (E)—F. S. Galasso, F. C. Douglas, and R. J. Kasper. 44, 1672 (1966)

DOWS, D. A.
Electric Field Spectra (E)—N. J. Bridge, D. A. Haner, and D. A. Dows. 44, 3128(L) (1966)

DRICKAMER, H. G.
Effect of High Pressure on the Lattice Parameters of Diamond, Graphite, and Hexagonal Boron Nitride (E)—R. W. Lynch and H. G. Drickamer. 44, 181 (1966)
Lattice Parameters of Nine Oxides and Sulfides as a Function of Pressure (E)—R. L. Clendenen and H. G. Drickamer. 44, 4223 (1966)
Effect of High Pressure on the Compressibilities of Five Alloys (E)—R. L. Clendenen and H. G. Drickamer. 44, 4385 (1966)

DUBRIN, J.
Reactions of Atomic Nitrogen in the Quadruplet and Doublet States (E)—J. Dubrin, C. MacKay, and R. Wolfgang. 44, 2208(L) (1966)

DUNN, Gordon H.
Franck-Condon Factors for the Ionization of $H_2$ and $D_2$ (T)—Gordon H. Dunn. 44, 2592 (1966)

DU PLESSIS, L. A.
Photoconductivity of Vitreous Zinc 9-Anthroate (E/T)—L. A. du Plessis. 44, 2917 (1966)

DURIG, J. R.
Vibrational Spectrum of Hydrazine-$d_4$ and a Raman Study of Hydrogen Bonding in Hydrazine (E)—J. R. Durig, S. F. Bush, and E. E. Mercer. 44, 4238 (1966)

DuVARNEY, Raymond C.
Ammonio-Group $\beta$-Proton Hyperfine Coupling Constants in $\pi$-Electron Radicals (T)—Raymond C. DuVarney and Roger P. Kohin. 44, 2532(L) (1966)

DYE, J. L.
Correlated EPR-Optical Spectra of Potassium in Ethylamine–Ammonia Mixtures (E)—L. R. Dalton, J. D. Rynbrandt, E. M. Hansen, and J. L. Dye. 44, 3969 (1966)

EACHUS, W. James
Dipole Moment Function and Vibration-Rotation Matrix Elements for CO (T)—Lee A. Young and W. James Eachus. 44, 4195 (1966)

EAGLE, Donald F.
Stark Effect and Hyperfine Splitting for Near-Degenerate Levels of an Asymmetric Rotor. Application to $NO_2Cl$ and NOBr (E/T)—D. F. Eagle, T. L. Weatherly, and Q. Williams. 44, 847 (1966)

EASLEY, W.
Formation and Characterization of Divalent Americium in $CaF_2$ Crystals (E)—N. Edelstein, W. Easley, and R. McLaughlin, 44, 3130(L) (1966)

EBISAWA, Shigeo
Adsorption and Oxidation of Carbon Monoxide on Clean Films of Palladium and Nickel (E)—K. Kawasaki, T. Sugita, and S. Ebisawa. 44, 2313 (1966)

EDELSTEIN, N.
Formation and Characterization of Divalent Americium in $CaF_2$ Crystals (E)—N. Edelstein, W. Easley, and R. McLaughlin, 44, 3130(L) (1966)

EDEN, C.
Electron Spin Resonance of Parabenzosemiquinone-$^{17}O$ (E)—B. L. Silver, Z. Luz, and C. Eden. 44, 4258 (1966)
Sign of the $^{17}O$ Hyperfine Coupling Constant in Fremy's Salt (E)—Z. Luz, B. L. Silver, and C. Eden. 44, 4421 (1966)

EDMONDS, P. D.
Absorption of Sound Near the Critical Point of the Nitrobenzene–Iso-octane System (E)—A. V. Anantaraman, A. B. Walters, P. D. Edmonds, and C. J. Pings. 44, 2651 (1966)

EDSE, R.
Reaction between Atomic Oxygen and Nitrous Oxide (E)—E. Stokes Fishburne and R. Edse. 44, 515 (1966)

EDWARDS, Jimmie G.
Effusion from Spherical Orifices. I. Transmission by Molecular Flow (T)—Jimmie G. Edwards and Paul W. Gilles. 44, 4426 (1966)

EGGERS, D. F., Jr.
Fundamental Vibrations and Force Constants in the Partially Deuterated Methyl Halides (E/T)—J. R. Riter, Jr., and D. F. Eggers, Jr. 44, 745 (1966)
Erratum: Infrared Spectra of Crystalline $C_2H_2$, $C_2HD$, and $C_2D_2$ (E/T)—G. L. Bottger and D. F. Eggers, Jr. [40, 2010 (1964)] 44, 4366 (1966)

EHRENSON, S.
Reliability of Variational Double-Perturbation Procedure for Molecules (T)—J. C. Y. Chen and S. Ehrenson. 44, 1020 (1966)

EHRLICH, Gert
Atomic View of Surface Self-Diffusion: Tungsten on Tungsten (E)—Gert Ehrlich and F. G. Hudda. 44, 1039 (1966)
Atomic Displacements in One- and Two-Dimensional Diffusion (T)—Gert Ehrlich. 44, 1050 (1966)

EICK, Harry A.
Vaporization Behavior of Europium Dicarbide (E)—Robert E. Gebelt and Harry A. Eick. 44, 2872 (1966)

EINSPRUCH, N. G.
High-Field Electron Emission from Indium Arsenide (E)—S. G. Truxillo, J. C. Blair, N. G. Einspruch, and R. Stratton. 44, 1724(L) (1966)

EISENBERG, Henryk
Multicomponent Polyelectrolyte Solutions. Part III. Determination of Activity of KCl in Potassium Polyvinylsulfonate Solutions by Use of a Cation-Sensitive Glass Electrode (E)—Nobuhise Imai and Henryk Eisenberg. 44, 130 (1966)
Multicomponent Polyelectrolyte Solutions. Part IV. Second Virial Coefficient in Mixed Polyvinylsulfonate KCl Systems Near the Θ Temperature (E)—Henryk Eisenberg. 44, 137 (1966)

EISENSTADT, Maurice
Nuclear Magnetic Relaxation in Ionic Solution. I. Relaxation of $^{23}Na$ in Aqueous Solutions of NaCl and $NaClO_4$ (E)—Maurice Eisenstadt and Harold L. Friedman. 44, 1407 (1966)

EISENTHAL, K. B.
Comment on the Collective-Coordinate Treatment of Electrolytes (T)—K. B. Eisenthal and W. G. McMillan. 44, 2542(L) (1966)
Laser-Induced Luminescence and Dissociation in Biphenyl (E)—K. B. Eisenthal, W. L. Peticolas, and K. E. Rieckhoff. 44, 4492 (1966)

EISNER, Melvin
Study of the DMSO–TCNE Charge-Transfer Complex and Its Kinetics (E)—F. E. Stewart, M. Eisner, and W. R. Carper. 44, 2866 (1966)
Spin-Rotation Contribution to the Relaxation Time of the Fluorine Nuclei in Benzotrifluoride (E/T)—R. H. Faulk and M. Eisner. 44, 2926 (1966)

ELEK, G.
Theoretical Estimation of the Conductivity of Different Periodic DNA Models (T)—J. Ladik, G. Biczó, and G. Elek. 44, 483 (1966)

ELIAS, Lorne
Measurement of Atomic Concentrations in Discharged Nitrogen, Oxygen, and Hydrogen (E)—Lorne Elias. 44, 3810 (1966)

ELLGREN, William K., Jr.
Reactions of Bromine Activated by Bromine-82m Isomeric Transition and Radiative Neutron Capture in Liquid and Solid Carbon Tetrachloride and *n*-Hexane (E)—J. A. Merrigan, W. K. Ellgren, Jr., and E. P. Rack. 44, 174 (1966)

ELLIS, B. Y.
Reaction of $HD^*$ with Rare Gases (E)—M. A. Berta, B. Y. Ellis, and W. S. Koski. 44, 4612 (1966)

ELLIS, R. B.
Capillary Viscometry: Analysis of Kinetic Energy and Hydrostatic Head Corrections and a More Exact Calculation (E/T)—R. E. Wellman, R. DeWitt, and R. B. Ellis. 44, 3070 (1966)

EL-SABBAN, M. Zaki
Normal-Coordinate Analysis and Molecular Properties of Four $CH_2XY$ Halomethanes (X = F or I; Y = Cl or Br) (T)—M. Z. El-Sabban, A. Danti, and B. J. Zwolinski. 44, 1770 (1966)

EL-SAYED, M. A.
Method of "Magnetophotoselection" of the Lowest Excited Triplet State of Aromatic Molecules (E)—M. A. El-Sayed and Seymour Siegel. 44, 1416 (1966)
Host-Crystal Effects on the Mechanism of the $\pi, \pi^*$ Phosphorescence. II. N-Heterocyclics (E)—N. K. Chaudhuri and M. A. El-Sayed. 44, 3728 (1966)

ENGLMAN, Robert
Jahn-Teller Effect on a Triplet due to Threefold Degenerate Vibrations (T)—Marc Caner and Robert Englman. 44, 4054(L) (1966)

EPSTEIN, Saul T.
Improvement of Uncoupled Hartree-Fock Expectation Values for Physical Properties (T)—Debbie Fu-Tai Tuan, S. T. Epstein, and J. O. Hirschfelder. 44, 431 (1966)
Ground-State Energy of a Molecule in the Adiabatic Approximation (T)—Saul T. Epstein. 44, 836(L) (1966)
Erratum: 44, 4062 (1966)
Variational Methods and Degenerate Perturbation Theory (T)—Saul T. Epstein. 44, 3266 (1966)
Generalized Sternheimer Potential (T)—Saul T. Epstein and John H. Karl. 44, 4347 (1966)

EU, Byung Chan
Some Applications of the *R*-Matrix Theory to Reactive and Elastic Molecular Scattering (T)—Byung Chan Eu and John Ross. 44, 2467 (1966)

EVANS, J. C.
Vibrational Spectra of the $Cl_3^-$ Ion and Evidence for the Existence of $Cl_3^-$ (E)—J. C. Evans and G. Y-S. Lo. 44, 3638(L) (1966)
Vibrational Spectra of the ClBr–Cl Ion (E)—J. C. Evans and G. Y.-S. Lo. 44, 4356(L) (1966)

EVENSON, K. M.
Measurements of Collisional Energy Transfer between Rotational Energy Levels in CN (E)—K. M. Evenson and H. P. Broida. 44, 1637 (1966)
Use of $O_2$ for ESR Calibration for Quantitative Measurement of Gas Concentrations (E)—K. M. Evenson and D. S. Burch. 44, 1715(L) (1966)

EWING, George
Spectroscopic Evidence for Rotation-Translation Coupling in Liquid State: Infrared Absorption of HD in Liquid Argon (E/T)—Gerald W. Holleman and George E. Ewing. 44, 3121 (1966)

EWING, James J.
Generation of Charge Carriers in Molecular Crystals by Direct Optical Transitions to the Conducting State (T)—James J. Ewing and David R. Kearns. 44, 3139(L) (1966)

EYRING, Henry
Electrical Properties of Some Charge-Transfer Complexes under High Pressure (E)—T. N. Andersen, D. W. Wood, R. C. Livingston, and H. Eyring. 44, 1259 (1966)
Significant-Structure Theory Applied to Water and Heavy Water (T)—Mu Shik Jhon, J. Grosh, T. Ree, and H. Eyring. 44, 1465 (1966)

FALCONER, W. E.
Comparison of Radical and Nonradical Processes in the Condensed-Phrase Radiolysis of *n*-Hexadecane (E)—W. E. Falconer and R. Salovey. 44, 3151 (1966)

FARBER, Milton
Dissociation Energy of $F_2(g)$ Obtained from the Study of Gas Flow of Intermediate Pressures Through an Orifice (T/E)—R. E. Yates, J. A. Blauer, M. A. Greenbaum, and M. Farber. 44, 498 (1966)

FARMER, D. B.
Dielectric Studies. IX. Relaxation Processes of Anisole- and Fluorine-Substituted Anisoles (T)—D. B. Farmer, A. Holt, and S. Walker. 44, 4116 (1966)

FARRAR, T. C.
NMR Studies of Inorganic Fluorides. I. High-Resolution $^{19}F$ Spectra of $Si_2F_6$ and $(SiF_3)_2O$ (E)—R. B. Johannesen, T. C. Farrar, F. E. Brinckman, and T. D. Coyle. 44, 962 (1966)

FAULK, R. H.
Spin-Rotation Contribution to the Relaxation Time of the Fluorine Nuclei in Benzotrifluoride (E/T)—R. H. Faulk and M. Eisner. 44, 2926 (1966)

FEAIRHELLER, W. R., Jr.
Long-Range Nonbonded Interactions and Rotational Isomerism in Acyl Halides (E/T)—J. E. Katon and W. R. Feairheller, Jr. 44, 144 (1966)

FEHSENFELD, F. C.
Thermal-Energy Ion-Neutral Reaction Rates. III. The Measured Rate Constant for the Reaction $O^+(^4S) + CO_2(^1\Sigma) \rightarrow O_2^+(^2\Pi) + CO(^1\Sigma)$ (E)—F. C. Fehsenfeld, E. E. Ferguson, and A. L. Schmeltekopf. 44, 3022 (1966)
Thermal Energy Ion–Neutral Reaction Rates. I. Some Reactions of Helium Ions (E)—F. C. Fehsenfeld, A. L. Schmeltekopf, P. D. Goldan, H. I. Schiff, and E. E. Ferguson. 44, 4087 (1966)
Thermal Energy Ion–Neutral Reaction Rates. II. Some Reactions of Ionospheric Interest (E)—P. D. Goldan, A. L. Schmeltekopf, F. C. Fehsenfeld, H. I. Schiff, and E. E. Ferguson. 44, 4095 (1966)
Thermal Energy Ion–Neutral Reaction Rates. IV. Nitrogen Ion Charge-Transfer Reactions with CO and $CO_2$ (E)—F. C. Fehsenfeld, A. L. Schmeltekopf, and E. E. Ferguson. 44, 4537 (1966)

FEITELSON, Jehuda
Resonance Transfer of Electronic Excitation Energy in Solution. I. Influence of Brownian Motion (T)—Jehuda Feitelson. 44, 1497 (1966)
Resonance Transfer of Electronic Excitation Energy in Solution. II. The System *p*-Terphenyl-9-methylanthracene (E)—Jehuda Feitelson. 44, 1500 (1966)

FELDERHOF, B. U.
Onsager Relations and the Spectrum of Critical Opalescence (T)—B. U. Felderhof. 44, 602 (1966)

FERGUSON, E. E.
Thermal-Energy Ion-Neutral Reaction Rates. III. The Measured Rate Constant for the Reaction $O^+(^4S) + CO_2(^1\Sigma) \rightarrow O_2^+(^2\Pi) + CO(^1\Sigma)$ (E)—F. C. Fehsenfeld, E. E. Ferguson, and A. L. Schmeltekopf. 44, 3022 (1966)
Thermal Energy Ion–Neutral Reaction Rates. I. Some Reactions of Helium Ions (E)—F. C. Fehsenfeld, A. L. Schmeltekopf, P. D. Goldan, H. I. Schiff, and E. E. Ferguson. 44, 4087 (1966)
Thermal Energy Ion–Neutral Reaction Rates. II. Some Reactions of Ionospheric Interest (E)—P. D. Goldan, A. L. Schmeltekopf, F. C. Fehsenfeld, H. I. Schiff, and E. E. Ferguson. 44, 4095 (1966)
Thermal Energy Ion–Neutral Reaction Rates. IV. Nitrogen Ion Charge-Transfer Reactions with CO and $CO_2$ (E)—F. C. Fehsenfeld, A. L. Schmeltekopf, and E. E. Ferguson. 44, 4537 (1966)

FERGUSON, J.
Electronic Absorption Spectrum of Ni(II) in Cubic Perovskite Fluorides. II. Concentration and Exchange Effects (E)—J. Ferguson and H. J. Guggenheim. 44, 1095 (1966)
Absorption and Emission Spectra of the Perylene Dimer (E)—J. Ferguson. 44, 2677 (1966)

FERRANTI, Francesco
Salt Effects in the Reaction of Peroxydisulfate with Thiosulfate (E)—A. Indelli, V. Bartocci, F. Ferranti, and M. G. Lucarelli. 44, 2069 (1966)

FERRARESSO, G.
Thermoluminescence in Vitreous Sodium Silicate (E)—C. Bettinali and G. Ferraresso. 44, 2262 (1966)

FERRARO, J. R.
Neutron and Infrared Spectra of $HCrO_2$ and $DCrO_2$ (E)—J. J. Rush and J. R. Ferraro. 44, 2496 (1966)
Thermoluminescence of Unirradiated MgO and $Mg(OH)_2$ (E)—C. Bettinali and G. Ferraresso. 44, 4646(L) (1966)

FERRETTI, James A.
Transient Nutations in Nuclear Magnetic Double Resonance. Assignment of Transitions to an Energy-Level Diagram (E/T)—James A. Ferretti and R. Freeman. 44, 2054 (1966)

FERRIERA, L. C.
Influence of a Few Promoters on the Lattice Parameter and Curie Point of Magnetite (E)—L. C. Ferriera and L. Alberts. 44, 2204(L) (1966)

FESSENDEN, Richard W.
ESR Spectrum of FOO (E)—Richard W. Fessenden and Robert H. Schuler. 44, 434 (1966)

FETTERS, Lewis J.
Rodlike Behavior of Poly(*n*-butyl)isocyanate from Dielectric Measurements (E)—Hyuk Yu, A. J. Bur, and L. J. Fetters. 44, 2568 (1966)

FIAT, DANIEL
Oxygen-17 Nuclear Magnetic Resonance Study of the Hydration Shell of Nickelous Ion (E)—Robert E. Connick and Daniel Fiat. 44, 4103 (1966)

FINLAYSON, N.
Some Novel Energy-Pooling Processes Involving $O_2(^1\Delta_g)$ (E)—S. J. Arnold, N. Finlayson, and E. A. Ogryzlo. 44, 2529(L) (1966)

FISHBURNE, E. Stokes
Reaction between Atomic Oxygen and Nitrous Oxide (E)—E. Stokes Fishburne and R. Edse. 44, 515 (1966)

FISHER, Bertina
Electrical Properties of Cobalt Monoxide (E)—Bertina Fisher and D. S. Tannhauser. 44, 1663 (1966)

FISHER, Michael E.
Shape of a Self-Avoiding Walk or Polymer Chain (T)—Michael E. Fisher. 44, 616 (1966)

FISK, Stephen
Effect of Volume Exclusion on the Dimensions of Polymer Chains (T)—Paul J. Flory and Stephen Fisk. 44, 2243 (1966)

FIXMAN, Marshall
Perturbation Theory of the Intrinsic Viscosity of Polymer Chains (T)—Chong Wha Pyun and Marshall Fixman. 44, 2107 (1966)

FLANAGAN, Ted B.
Electrical Resistance of Dilute Solutions of Hydrogen in Palladium (E/T)—J. W. Simons and Ted B. Flanagan. 44, 3486 (1966)

FLINCHBAUGH, D. E.
$Ba(B_{0.5}Ta_{0.5})O_3$ Ordered Perovskite-Type Compounds, Possible New Laser Host Materials (E)—F. S. Galasso, G. K. Layden, and D. E. Flinchbaugh. 44, 2703 (1966)

FLORY, Paul J.
Effect of Volume Exclusion on the Dimensions of Polymer Chains (T)—Paul J. Flory and Stephen Fisk. 44, 2243 (1966)

FLYGARE, W. H.
Vibration-Rotation Spectra of Monomeric HCl, DCl, HBr, DBr, and HI in the Rare-Gas Lattices and $N_2$-Doping Experiments in the Rare-Gas Lattices (E/T)—M. T. Bowers and W. H. Flygare. 44, 1389 (1966)

FONTIJN, Arthur
Calculation and Interpretation of the NMR Chemical Shift and Its Pressure Dependence in the Alkali Halide Lattices (T)—D. W. Hafemeister and W. H. Flygare. 44, 3584 (1966)
Mechanism of Chemiluminescence of Atomic-Oxygen-Hydrocarbon Reactions. Formation of the Vaidya Hydrocarbon Flame Band Emitter (E)—Arthur Fontijn. 44, 1702 (1966)

FORDYCE, J. Stuart
Infrared-Reflection Spectra of Molten Fluoride Solutions: Tantalum (V) in Alkali Fluorides (E)—J. Stuart Fordyce and Ruth L. Baum. 44, 1159 (1966)
Infrared-Reflection Spectra of Molten Fluoride Solutions: Nb (V) in KF:LiF (E)—J. Stuart Fordyce and Ruth L. Baum. 44, 1166 (1966)

FORMAN, A.
Electron Paramagnetic Resonance of Divalent Manganese in Ammonium Chloride (T/E)—A. Forman and J. A. van Wyk. 44, 73 (1966)

FORSMAN, W. C.
Exact Expression for the Distribution of Radii of Gyration of Linear, Flexible, Random-Flight Chains in Two Dimensions (T)—W. C. Forsman. 44, 1716(L) (1966)

FORST, W.
Thermal Decomposition of Azomethane. II. The Unimolecular Reaction on the Quantum Harmonic Model (T)—W. Forst. 44, 2349 (1966)

FORSTER, Leslie S.
Thermal Quenching of Cr(III) Luminescence (E)—William Targos and Leslie S. Forster. 44, 4342 (1966)

FOSS, John G.
MCD of Simple and Catacondensed Aromatics (E)—John G. Foss and Michael E. McCarville. 44, 4350(L) (1966)

FOUGERE, P. F.
Electronic Structure of $C_2$ (T)—P. F. Fougere and R. K. Nesbet. 44, 285 (1966)

FRAENKEL, Gideon
Isotope Shifts and Spin Coupling in the Proton Magnetic Resonance of Deuterated Ammonium Ions (E)—G. Fraenkel, Y. Asahi, H. Batiz-Hernandez, and R. A. Bernheim. 44, 4647(L) (1966)

FRANKENTHAL, S.
Fluorescent Efficiency of Energetic Electrons in the 3914-Å Band (T)—S. Frankenthal, O. P. Manley, and Y. M. Treve. 44, 257 (1966)

FRAZIER, John P. III
Paramagnetic Resonance Absorption in Tetrakis(pyridine) Copper (II) Peroxydisulfate (E)—Harry G. Hecht and John P. Frazier III. 44, 1718(L) (1966)

FREEDMAN, J. N.
Reduction of the Fourth-Order Asymmetric-Rotor Hamiltonian (T)—F. X. Kneizys, J. N. Freedman, and S. A. Clough. 44, 2552 (1966)

FREEMAN, R.
Transient Nutations in Nuclear Magnetic Double Resonance. Assignment of Transitions to an Energy-Level Diagram (E/T)—James A. Ferretti and R. Freeman. 44, 2054 (1966)

FRENKEL, L.
Microwave Absorption in Compressed $CO_2$ (E)—L. Frenkel and D. Woods. 44, 2219(L) (1966)
Debye Relaxation in Symmetric-Top–Foreign-Gas Mixtures; Temperature Dependence of Collision Cross Sections (E)—L. Frenkel, S. J. Kryder, and A. A. Maryott. 44, 2610 (1966)

FREUND, Harold G.
Conformations of the Free Radical in Irradiated α-Aminoisobutyric Acid (E)—Harold C. Box and Harold G. Freund. 44, 2345 (1966)

FRIEDMAN, Harold L.
Nuclear Magnetic Relaxation in Ionic Solution. I. Relaxation of $^{23}Na$ in Aqueous Solutions of NaCl and $NaClO_4$ (E)—Maurice Eisenstadt and Harold L. Friedman. 44, 1407 (1966)

FRIEDMAN, L.
Experimental Determination of the Disproportionation of Hydrogen Isotopes in Water (E)—L. Friedman and V. J. Shiner, Jr. 44, 4639(L) (1966)

FRIEDMANN, H.
Rotation-Translation Coupling Spectrum of Matrix-Isolated Diatomic Molecules in the Near and Far Infrared (T)—H. Friedmann and S. Kimel. 44, 4359(L) (1966)

FRIEDRICH, H. Bruce
Infrared Spectra of Charge-Transfer Complexes. VI. Theory (T)—H. Bruce Friedrich and Willis B. Person. 44, 2161 (1966)

FROMHOLD, A. T., Jr.
Space Charge in Growing Oxide Films. V. Peturbation Coefficients and Second-Order Treatment (T)—A. T. Fromhold, Jr., and E. R. Graf. 44, 1628 (1966)

Hauffe-Ilschner Transition during Thermal Oxidation (T)—A. T. Fromhold, Jr., and Earl L. Cook. 44, 4564 (1966)

FROST, D. C.
Mass-Spectrometric Studies of the Rare Gases Using an Electron Velocity Selector (E)—C. E. Brion, D. C. Frost, and C. A. McDowell. 44, 1034 (1966)

FUEKI, Kenji
Energy Levels and Optical Properties of Trapped Electrons in 2-Methyltetrahydrofuran (T)—Kenji Fueki. 44, 3140(L) (1966)

FUKATSU, Masaaki
Hydrodynamic Properties of Flexible-Ring Macromolecules (T)—Masaaki Fukatsu and Michio Kurata. 44, 4539 (1966)

FUKS, S.
On the Surface Tension of Isotopic Mixtures (T)—A. Bellemans and S. Fuks. 44, 834(L) (1966)

FUTRELL, J. H.
Xenon-Sensitized Radiolysis of Propane (E/T)—L. I. Bone, L. W. Sieck, and J. H. Futrell. 44, 3667 (1966)
Decomposition of Tropylium and Substituted Tropylium Ions (E)—K. R. Jennings and J. H. Futrell. 44, 4315 (1966)

FUTRELLE, R. P.
New Method in the Kinetics of Classical Dense Fluids (T)—R. P. Futrelle. 44, 3240 (1966)

GALASSO, Francis S.
Relationship Between Magnetic Curie Points and Cell Sizes of Solid Solutions with the Ordered Perovskite Structure (E)—F. S. Galasso, F. C. Douglas, and R. J. Kasper. 44, 1672 (1966)
$Ba(B_{0.5}Ta_{0.5})O_3$ Ordered Perovskite-Type Compounds, Possible New Laser Host Materials (E)—F. S. Galasso, G. K. Layden, and D. E. Flinchbaugh. 44, 2703 (1966)

GALLACHER, Lawrence V.
Monte Carlo Study of Flexible Branched Macromolecules (T/E)—Lawrence V. Gallacher and Stanley Windwer. 44, 1139 (1966)

GALLIVAN, James B.
Ionic Processes in $\gamma$-Irradiated Organic Solids: Electrons in 3-Methylpentane (E)—James B. Gallivan and William H. Hamill. 44, 1279 (1966)
Ionic Processes in $\gamma$-Irradiated Organic Solids: Positive-Hole Migration in 3-Methylpentane (E)—James B. Gallivan and William H. Hamill. 44, 2378 (1966)

GAMMON, Robert W.
Rayleigh and Brillouin Scattering in Liquids: The Landau-Placzek Ratio (E/T)—Herman Z. Cummins and Robert W. Gammon. 44, 2785 (1966)

GARDINER, W. C., Jr.
Shock-Tube Study of the Hydrogen–Oxygen Reaction. II. Role of Exchange Initiation (T/E)—Dennis L. Ripley and W. C. Gardiner, Jr. 44, 2285 (1966)
Heat-Release Profiles in the High-Temperature Oxidation of Acetylene in Shock Waves (E)—W. C. Gardiner, Jr., W. G. Mallard, K. Morinaga, D. L. Ripley, and B. F. Walker. 44, 4653(L) (1966)

GARLAND, Carl W.
Temperature and Pressure Dependence of the Elastic Constants of Ammonium Bromide (E)—C. W. Garland and C. F. Yarnell. 44, 1112 (1966)
Order-Disorder Phenomena. I. Instability and Hysteresis in an Ising Model Near Its Critical Point (T)—Carl W. Garland and Rémi Renard. 44, 1120 (1966)
Order-Disorder Phenomena. II. Elastic Constants of a Two-Dimensional Ising Model (T)—Rémi Renard and Carl W. Garland. 44, 1125 (1966)
Order-Disorder Phenomena. III. Effect of Temperature and Pressure on the Elastic Constants of Ammonium Chloride (E)—Carl W. Garland and Rémi Renard. 44, 1130 (1966)
Order-Disorder Phenomena. IV. Ultrasonic Attenuation near the Lambda Point in Ammonium Chloride (E)—C. W. Garland and C. F. Yarnell. 44, 3678 (1966)

GARRETT, Barry B.
Electron Spin Relaxation in Solvated Manganese (II) Ion Solutions (E/T)—B. B. Garrett and L. O. Morgan. 44, 890 (1966)
Paramagnetic Resonance Studies of Bonding in $[CrCl_5(H_2O)]^{2-}$ (T/E)—B. B. Garrett, K. DeArmond, and H. S. Gutowsky. 44, 3393 (1966)

GARSTANG, R. H.
Forbidden Transitions in Excitation by Electron Impact (T)—R. H. Garstang. 44, 1308(L) (1966)

GATZ, Carole R.
Temperature-Independent Factor in Isotopic Rate-Constant Ratios (T)—Carole R. Gatz. 44, 1861 (1966)

GAVIN, R. M., Jr.
Effects of Electron Correlation in X-Ray and Electron Diffraction. III. Experimental Electron–Electron Distribution Functions (T/E)—R. M. Gavin, Jr., and L. S. Bartell. 44, 3687 (1966)

GEBELT, Robert E.
Vaporization Behavior of Europium Dicarbide (E)—Robert E. Gebelt and Harry A. Eick. 44, 2872 (1966)

GELLER, Murray
Atomic Integrals with the Magnetic Dipole-Dipole Operator (T)—Murray Geller. 44, 837(L) (1966)

GEORGE, C. F.
Molecular Structure of $CCl_3NO_2$ by Electron Diffraction (E)—R. E. Knudsen, C. F. George, and J. Karle. 44, 2334 (1966)

GERMER, L. H.
Adsorption of Carbon Monoxide on a Tungsten (110) Surface (E)—J. W. May and L. H. Germer. 44, 2895 (1966)

GESKE, David H.
Observation of Conformational Isomers of the Tetraisopropylnitrobenzene Anion Radical by Electron Spin Resonance Spectroscopy (E)—Ted M. McKinney and David H. Geske. 44, 2277 (1966)

GHOSH, Amal K.
Optical Spectra of Thallium in Glasses as Related to Crystals and Solutions (E)—Amal K. Ghosh. 44, 535 (1966)
Color Centers in Aluminoborate Glass (E)—Amal K. Ghosh. 44, 541 (1966)

GIAUQUE, W. F.
Heat and Entropy of Hydration of $\alpha$-$NiSO_4 \cdot 6H_2O$ to $NiSO_4 \cdot 7H_2O$. Their Low-Temperature Heat Capacities (E)—J. W. Stout, R. C. Archibald, G. E. Brodale, and W. F. Giauque. 44, 405 (1966)

GIBBS, Julian H.
Electric Polarization of Solutions of Rodlike Polyelectrolytes (T)—John P. McTague and Julian H. Gibbs. 44, 4295 (1966)

GILEADI, E.
Dielectric Relaxation in the Electric Double Layer (T/E)—J. O'M. Bockris, E. Gileadi, and K. Müller. 44, 1445 (1966)

GILLES, Paul W.
Effusion from Spherical Orifices. I. Transmission by Molecular Flow (T)—Jimmie G. Edwards and Paul W. Gilles. 44, 4426 (1966)

GIMARC, B. M.
Polynomial Radial Functions for Atomic Wavefunctions (T)—B. M. Gimarc. 44, 373 (1966)

GINGERICH, Karl A.
Mass-Spectrometric Study of the Equilibrium between Diatomic and Monoatomic Phosphorus and Dissociation Energy of $P_2$ (E)—Karl A. Gingerich. 44, 1717(L) (1966)
Dissociation Energy of the Gaseous AlP Molecule (E/T)—G. De Maria, K. A. Gingerich, L. Malaspina, and V. Piacente. 44, 2531(L) (1966)

GINTER, Marshall L.
Molecular Constants for *l*-Uncoupled Electronic States of Diatomic Molecules (T)—Marshall L. Ginter. 44, 950 (1966)

GLAESER, R. M.
Mobilities of Electrons and Holes in Organic Molecular Solids. Comparison of Band and Hopping Models (T)—R. M. Glaeser and R. Stephen Berry. 44, 3797 (1966)

GLARUM, Sivert H.
ESR of the Perinaphthenyl Radical in a Liquid Crystal (E/T)—Sivert H. Glarum and James H. Marshall. 44, 2884 (1966)

GLASER, Frederic M.
Momentum Eigenfunction for the Ground State of $H_2^+$ (T)—Frederic M. Glaser and Edwin N. Lassettre. 44, 3787 (1966)

GLEICHER, Gerald Jay
Ground States of Conjugated Molecules. VII. Compounds Containing Nitrogen and Oxygen (T)—Michael J. S. Dewar and Gerald Jay Gleicher. 44, 759 (1966)

GLEW, D. N.
Variable Composition of the Chlorine and Ethylene Oxide Clathrate Hydrates (E)—D. N. Glew and N. S. Rath. 44, 1710(L) (1966)

GLICK, R. E.
Proton Nuclear Magnetic Relaxation Studies on Water: The Rates of Acid- and Base-Catalyzed Proton Exchange (E)—R. E. Glick and K. C. Tewari. 44, 546 (1966)

GODFREY, M.
Studies of Zero-Field Splittings in Aromatic Molecules (T)—M. Godfrey, C. W. Kern, and M. Karplus. 44, 4459 (1966)

GOLDAK, J.
Structure of Alpha GeTe (E)—J. Goldak, C. S. Barrett, D. Innes, and W. Youdelis. 44, 3323 (1966)

GOLDAN, P. D.
Thermal Energy Ion–Neutral Reaction Rates. I. Some Reactions of Helium Ions (E)—F. C. Fehsenfeld, A. L. Schmeltekopf, P. D. Goldan, H. I. Schiff, and E. E. Ferguson. 44, 4087 (1966)
Thermal Energy Ion–Neutral Reaction Rates. II. Some Reactions of Ionospheric Interest (E)—P. D. Goldan, A. L. Schmeltekopf, F. C. Fehsenfeld, H. I. Schiff, and E. E. Ferguson. 44, 4095 (1966)

GOLDEN, Sidney
Continuous Representations in the Statistical Theory of Electronic Energies. The $H_2^+$ Ion (T)—George S. Handler and Sidney Golden. 44, 1812 (1966)
Species and Composition of Dilute Alkali-Metal–Ammonia Solutions (T)—S. Golden, C. Guttman, and T. R. Tuttle, Jr. 44, 3791 (1966)

GOLDRING, Hanna
Infrared Spectra of HCl in Pure and Impure Noble-Gas Matrices. Absolute Intensities (E)—J. M. P. J. Verstegen, H. Goldring, S. Kimel, and B. Katz. 44, 3216 (1966)

GOLDSTEIN, Lester
Study of Triplet-Triplet Transfer by the Method of Magneto-photoselection. II. Concentration Depolarization (E)—Seymour Siegel and Lester Goldstein. 44, 2780 (1966)

GOLOMB, D.
NO–O Chemiluminescent Reaction in a Low-Density Wind Tunnel (E)—F. P. DelGreco, D. Golomb, J. A. van der Blick, R. A. Cassanova, and R. E. Good. 44, 4349(L) (1966)

GOMBEROFF, L.
Long-Range Retarded Potentials between Molecules (T)—L. Gomberoff, R. R. McLone, and E. A. Power. 44, 4148 (1966)

GOMER, Robert
Adsorption of Carbon Monoxide on Tungsten. Abundances, Dipole Moments, and Sticking Coefficients (E)—Anthony A. Bell and Robert Gomer. 44, 1065 (1966)

GOOD, R. E.
NO–O Chemiluminescent Reaction in a Low-Density Wind Tunnel (E)—F. P. DelGreco, D. Golomb, J. A. van der Blick, R. A. Cassanova, and R. E. Good. 44, 4349(L) (1966)

GOOD, W. B.
Homogeneous Nucleation of Water Vapor Determined by Scattering of a Laser Beam (E)—B. G. Schuster and W. B. Good. 44, 3132(L) (1966)

GOODISMAN, Jerry
Calculation of the Barrier to Internal Rotation of Ethane (T)—Jerry Goodisman. 44, 2085 (1966)

GORDEN, R., Jr.
Photoionization of Propylene at 1236 Å. Reactions of $C_3D_6^+$ with Added Alkanes (E)—R. Gorden, Jr., R. Doepker, and P. Ausloos. 44, 3733 (1966)

GORDON, Nahida H.
Calculated Elastic Scattering Cross Sections for the $H^+$–He System (T)—G. G. Weber, N. H. Gordon, and R. B. Bernstein. 44, 2814 (1966)

GORDON, R. G.
Kinetic Theory of Nuclear Spin Relaxation in Gases (T)—R. G. Gordon. 44, 228 (1966)
Relations Between Vibrational Spectroscopy and the Isotope Effect on Vapor Pressures (T)—R. G. Gordon. 44, 576 (1966)
Spin-Rotation Interactions in Polyatomic Molecules (T)—R. G. Gordon. 44, 1184 (1966)
Intermolecular Potentials and the Infrared Spectrum of the Molecular Complex $(H_2)_2$ (T)—R. G. Gordon and I. K. Cashion. 44, 1190 (1966)
On the Rotational Diffusion of Molecules (T)—R. G. Gordon. 44, 1830 (1966)
Theory of the Width and Shift of Molecular Spectral Lines in Gases (T)—R. G. Gordon. 44, 3083 (1966)

GRAF, E. R.
Space Charge in Growing Oxide Films. V. Peturbation Coefficients and Second-Order Treatment (T)—A. T. Fromhold, Jr., and E. R. Graf. 44, 1628 (1966)

GRANT, David M.
Interpretation of NMR Spectra. I. $A_2BX_x$ and $A_2BK_k$ Spectra (E)—R. C. Hirst, D. M. Grant, and E. G. Paul. 44, 4305 (1966)

GRANTHAM, L. F.
Electrical Conductivities of Molten Cadmium-Cadmium Halide Solutions (E/T)—L. F. Grantham. 44, 1509 (1966)

GRASSO, F.
Decomposition Processes and Fragmentation Probabilities of $W(CO)_6$ by Electron Impact (E)—B. Cantone, F. Grasso, and S. Pignataro. 44, 3115 (1966)

GRAVITT, James C.
Thermal Relaxation Absorption of Sound in the Deuterated Methanes at 26°C (E)—J. C. Gravitt, C. N. Whetstone, and R. T. Lagemann. 44, 70 (1966)

GRAY, Harry B.
Molecular Orbital Theory for Octahedral and Tetrahedral Metal Complexes (T)—H. Basch, A. Viste, and H. B. Gray. 44, 10 (1966)

GRAYBEAL, Jack D.
Zeeman Studies of the $^{63}Cu$ Nuclear Quadrupole Resonance in Potassium Dicyanocuprate (I) (E)—Gary L. McKown and Jack D. Graybeal. 44, 610 (1966)
GREEN, J. H.
Positron Annihilation in Materials under Ionizing Radiation (E)—S. J. Tao and J. H. Green. 44, 4007 (1966)
GREENBAUM, Michael A.
Dissociation Energy of $F_2(g)$ Obtained from the Study of Gas Flow of Intermediate Pressures Through an Orifice (T/E)—R. E. Yates, J. A. Blauer, M. A. Greenbaum, and M. Farber. 44, 498 (1966)
GREENE, Frank T.
Mass-Spectrometric Studies of Reactions in Flames. II. Quantitative Sampling of Free Radicals from One-Atmosphere Flames (E)—Thomas A. Milne and Frank T. Greene. 44, 2444 (1966)
GREENLER, Robert G.
Infrared Study of Adsorbed Molecules on Metal Surfaces by Reflection Techniques (T)—Robert G. Greenler. 44, 310 (1966)
GREENLIEF, C. M.
Second Virial Coefficient of Xe at 25°C (E)—C. M. Greenlief and G. Constabaris. 44, 4649(L) (1966)
GREENWALT, E. M.
Quantum-Mechanical Potential-Energy Curve for the Lowest $^1\Sigma_u^+$ State of $He_2$ (T)—D. R. Scott, E. M. Greenwalt, J. C. Browne, and F. A. Matsen. 44, 2981 (1966)
GRIFFITHS, James E.
Molecular Structure of $(CF_3)_2PCl_3$: Infrared and Raman Spectra (E)—James E. Griffiths and Alexander L. Beach. 44, 2686 (1966)
GROSH, Joe
Significant-Structure Theory Applied to Water and Heavy Water (T)—Mu Shik Jhon, J. Grosh, T. Ree, and H. Eyring. 44, 1465 (1966)
GROSSMAN, L. N.
Niobium—$Al_2O_3$ Reactions Yielding Condensed and Volatile Products (E)—L. N. Grossman. 44, 4127 (1966)
GRUEN, C. M.
Electronic Absorption Spectra of the Gaseous 3*d* Transition-Metal Dichlorides (E)—C. W. DeKock and C. M. Gruen. 44, 4387 (1966)
GSCHNEIDNER, K. A.
High-Temperature Heat Contents and Related Thermodynamic Functions of Eight Rare-Earth Metals: Sc, Gd, Tb, Dy, Ho, Er, Tm, and Lu (E)—D. H. Dennison, K. A. Gschneidner, Jr., and A. H. Daane. 44, 4273 (1966)
GUGGENHEIM, H. J.
Electronic Absorption Spectrum of Ni(II) in Cubic Perovskite Fluorides. II. Concentration and Exchange Effects (E)—J. Ferguson and H. J. Guggenheim. 44, 1095 (1966)
GUMLICH, H. E.
Optical Absorption and Energy Levels of Manganese in ZnS:Mn Crystals (E/T)—H. E. Gumlich, R. L. Pfrogner, J. C. Shaffer, and F. E. Williams. 44, 3929 (1966)
GÜNTHARD, Hs. H.
Spectroscopic Study of the Reduction of Nickel and Cobalt Ions in Sapphire (E)—Rudolf Müller and Hs. H. Günthard. 44, 365 (1966)
Line-Shape Analysis in EPR Spectra of Nb(IV) Complexes in Solutions and Glasses (E)—M. Lardon and Hs. H. Günthard. 44, 2010 (1966)
GUTJAHR, Liselotte
Role of Interaction Constants in Force-Constant Calculations (T)—W. J. Lehmann, L. Beckmann, and L. Gutjahr. 44, 1654 (1966)
GUTOWSKY, H. S.
Paramagnetic Resonance Studies of Bonding in $[CrCl_5(H_2O)]^{2-}$ (T/E)—B. B. Garrett, K. DeArmond, and H. S. Gutowsky. 44, 3393 (1966)
GUTTMAN, Charles
Species and Composition of Dilute Alkali-Metal–Ammonia Solutions (T)—S. Golden, C. Guttman, and T. R. Tuttle, Jr. 44, 3791 (1966)
GWINN, William D.
Microwave Spectra, Dipole Moments, Structure, and Ring Puckering Vibration of Cyclobutyl Chloride and Cyclobutyl Fluoride (E)—Hyunyong Kim and William D. Gwinn. 44, 865 (1966)
Trimethylene Oxide. III. Far-Infrared Spectrum and Double-Minimum Vibration (E/T)—Sunney I. Chan, T. R. Borgers, J. W. Russell, H. L. Strauss, and W. D. Gwinn. 44, 1103 (1966)
Microwave Spectrum, Vibration-Rotation Interaction, and Potential Function for the Ring-Puckering Vibration of Trimethylene Sulfide (E)—D. O. Harris, H. W. Harrington, A. C. Luntz, and W. D. Gwinn. 44, 3467 (1966)
HAAS, T. W.
Low-Energy Electron Diffraction Study of Molybdenum (110) Surfaces (E)—T. W. Haas and A. G. Jackson. 44, 2921 (1966)
HADA, Toshio
Magnetic Resonances in Microwave-Discharged Gases by Double-Tuning Cavity Resonator (E)—T. Hada, M. Kimura, S. Hattori, and Z. Kuri. 44, 4637(L) (1966)
HADJIANTONIOU, A.
Interaction of Thermal Electrons with Polarizable and Polar Molecules (E/T)—L. G. Christophorou, G. S. Hurst, and A. Hadjiantoniou. 44, 3506 (1966)
HADLEY, Wayne B.
Luminescence Processes Generated by Ionizing Radiation in KI and KI:Tl (E)—R. Gilbert Kaufman and Wayne B. Hadley. 44, 1311 (1966)
HAFEMEISTER, D. W.
Calculation and Interpretation of the NMR Chemical Shift and Its Pressure Dependence in the Alkali Halide Lattices (T)—D. W. Hafemeister and W. H. Flygare. 44, 3584 (1966)
HAIGH, P. J.
Temperature and Pressure Dependence of the Nuclear Quadrupole Resonance of $^{14}N$ in $(CH_2)_6N_4$ (E/T)—G. A. Matzkanin, T. N. O'Neal, T. A. Scott, and P. J. Haigh. 44, 4171 (1966)
HAJJ, Fuad
Van der Waals Coefficients for the Alkali Halides from Optical Data (T)—Fuad Hajj. 44, 4618 (1966)
HAKE, R. B.
Erratum: United-Atom Approximation Applied to Argonlike Molecules. II. $PH_{2-}$, $PH_3$, and $PH_4^+$ (T)—K. E. Banyard and R. B. Hake. [43, 2684 (1965)] 44, 3150 (1966)
United-Atom Approximation Applied to Argonlike Molecules. III. HCl and $SiH_4$ (T)—R. B. Hake and K. E. Banyard. 44, 3523 (1966)
HALL, G. G.
Kinetics of Unimolecular Breakdown. I. The Formal Solution (T)—G. G. Hall and R. D. Levine. 44, 1567 (1966)
HALMANN, M.
Isotope Effects on Franck-Condon Factors. V. Electronic Transitions of Isotopic $O_2$, $N_2$, $C_2$, and $H_2$ Molecules (T)—M. Halmann and I. Laulicht. 44, 2398 (1966)
Isotope Effects on Franck-Condon Factors. VI. Pressure-Broadened Absorption Intensities of the Schumann-Runge Bands of $^{16}O_2$ and $^{18}O_2$ (E)—M. Halmann. 44, 2406 (1966)

HAMILL, William H.
Ionic Processes in γ-Irradiated Organic Solids: Electrons in 3-Methylpentane (E)—James B. Gallivan and William H. Hamill. 44, 1279 (1966)
Molecular Ions in Radiation Chemistry. I. Formation of Aromatic-Amine Cations in $CCl_4$ by Resonance Charge Transfer at 77°K (E)—Tadamasa Shida and William H. Hamill. 44, 2369 (1966)
Molecular Ions in Radiation Chemistry. II. Aromatic-Hydrocarbon Cations in $CCl_4$ at 77°K (E)—Tadamasa Shida and William H. Hamill. 44, 2375 (1966)
Ionic Processes in γ-Irradiated Organic Solids: Positive-Hole Migration in 3-Methylpentane (E)—James B. Gallivan and William H. Hamill. 44, 2378 (1966)
Trapped Electrons in γ-Irradiated 3-Methylpentane at −196° (E)—David W. Skelly and William H. Hamill. 44, 2891 (1966)
Molecular Ions in Radiation Chemistry. III. Absorption Spectra of Aromatic-Hydrocarbon Cations and Anions in Organic Glasses (E)—Tadamasa Shida and William H. Hamill. 44, 4372 (1966)
HAMILTON, Walter C.
Crystal Structure of $O_2PtF_6$: A Neutron-Diffraction Study (E/T)—James A. Ibers and Walter C. Hamilton. 44, 1748 (1966)
Structure of Cubic Ammonium Fluosilicate: Neutron-Diffraction and Neutron-Inelastic-Scattering Studies (E)—E. O. Schlemper, W. C. Hamilton, and J. J. Rush. 44, 2499 (1966)
Neutron-Diffraction Study of the Structures of Ferroelectric and Paraelectric Ammonium Sulfate (E)—Elmer O. Schlemper and Walter C. Hamilton. 44, 4498 (1966)
HAMM, R. N.
Optical Properties of Polystyrene in the Vacuum Ultraviolet (E)—J. G. Carter, T. M. Jelinek, R. N. Hamm, and R. D. Birkhoff. 44, 2266 (1966)
HANDLER, George S.
Continuous Representations in the Statistical Theory of Electronic Energies. The $H_2^+$ Ion (T)—George S. Handler and Sidney Golden. 44, 1812 (1966)
HANER, D. A.
Electric Field Spectra (E)—N. J. Bridge, D. A. Haner, and D. A. Dows. 44, 3128(L) (1966)
HANLEY, H. J. M.
Comparison of the Lennard-Jones, exp-6, and Kihara Potential Functions from Viscosity Data of Dilute Argon (T/E)—H. J. M. Hanley. 44, 4219 (1966)
HANSEN, E. M.
Correlated EPR-Optical Spectra of Potassium in Ethylamine–Ammonia Mixtures (E)—L. R. Dalton, J. D. Rynbrandt, E. M. Hansen, and J. L. Dye. 44, 3969 (1966)
HANSON, D. N.
Effect of Oxygen, Nitrogen, and Water in Low-Pressure Hydrogen Discharges (E)—Peter R. Rony and D. N. Hanson. 44, 2536(L) (1966)
HARADA, Issei
Normal Vibrations and Intermolecular Forces of Crystalline Benzene and Naphthalene (T)—Issei Harada and Takehiko Shimanouchi. 44, 2016 (1966)
HARRIMAN, John E.
Temperature Dependence of ESR Linewidths of Some Nitrobenzene Anion Radicals (E)—Francis Millett and John E. Harriman. 44, 1945 (1966)
HARRINGTON, Howard W.
Microwave Spectrum, Vibration-Rotation Interaction, and Potential Function for the Ring-Puckering Vibration of Trimethylene Sulfide (E)—D. O. Harris, H. W. Harrington, A. C. Luntz, and W. D. Gwinn. 44, 3467 (1966)
Out-of-Plane Bending Frequencies in Trimethylene Sulfide from Microwave Intensity Measurements (E)—Howard W. Harrington. 44, 3481 (1966)
HARRINGTON, J. A.
Shock-Tube Determination of the $C_2(A\,^3\Pi \rightarrow X\,^3\Pi)$ and $CF(A\,^2\Sigma^+ \rightarrow X\,^2\Pi)$ Band System Oscillator Strengths (E)—J. A. Harrington, A. P. Modica, and D. R. Libby. 44, 3380 (1966)
HARRIS, David O.
Microwave Spectrum, Vibration-Rotation Interaction, and Potential Function for the Ring-Puckering Vibration of Trimethylene Sulfide (E)—D. O. Harris, H. W. Harrington, A. C. Luntz, and W. D. Gwinn. 44, 3467 (1966)
HARRIS, Frank E.
Potential Curve for $HeH^+$ (T)—Frank E. Harris. 44, 3636(L) (1966)
HARRIS, R. A.
On Polymer Dynamics (T)—R. A. Harris and J. E. Hearst. 44, 2595 (1966)
HARRIS, S.
Rice-Allnatt Assumption in the Low-Density Limit (T)—S. Harris. 44, 613 (1966)
HART, Robert R.
Assignment of the Ultraviolet Mystery Band of Olefins (E/T)—M. B. Robin, R. R. Hart, and N. A. Kuebler. 44, 1803 (1966)
HARTECK, P.
Photochemical Production of $C_3O_2$ from CO (T)—G. Liuti, S. Dondes, and P. Harteck. 44, 4051(L) (1966)
Isotopic Enrichment in the Photochemistry of CO with the 2062-Å Iodine Line (E/T)—G. Liuti, S. Dondes, and P. Harteck. 44, 4052(L) (1966)
HARTER, D. A.
Some Aspects of the Photochemistry of Benzene (E)—W. A. Noyes, Jr., W. A. Mulac, and D. A. Harter. 44, 2100 (1966)
HARTLAND, A.
Nuclear Spin-Lattice Relaxation in Liquid Hydrogen (E)—M. Lipsicas and A. Hartland. 44, 2839 (1966)
HARTMAN, K. O.
Infrared Spectrum of Carbon Dioxide Anion Radical (E)—K. O. Hartman and I. C. Hisatsune. 44, 1913 (1966)
HARTUNIAN, R. A.
Glow-Discharge Shock Tube for Studying Chemiluminescent, Surface-Catalytic, and Gas-Phase Reaction Rates; Temperature Dependence of NO–O and CO–O Chemiluminescence (E)—R. A. Hartunian, W. P. Thompson, and E. W. Hewitt. 44, 1765 (1966)
HARVEY, Albert B.
Vibrational Spectrum of Methyl Arsine (E)—Albert B. Harvey and M. Kent Wilson. 44, 3535 (1966)
HATTORI, Shuzo
Magnetic Resonances in Microwave-Discharged Gases by Double-Tuning Cavity Resonator (E)—T. Hada, M. Kimura, S. Hattori, and Z. Kuri. 44, 4637(L) (1966)
HAUG, Alfred
Electron Paramagnetic Resonance Studies of Photoselected Triplet Molecules. I. Phenoxazine (E)—J.-M. Lhoste, A. Haug, and M. Ptak. 44, 648 (1966)
Electron Paramagnetic Resonance Studies of Photoselected Triplet Molecules. II. Coronene and Phenanthrene (E)—J.-M. Lhoste, A. Haug, and M. Ptak. 44, 654 (1966)
HAUGE, Eivind Hiis
Mixtures with Weak Long-Range Forces (T)—Eivind Hiis Hauge. 44, 2249 (1966)
HAUGH, M.
Electronic Excitation Accompanying Charge Exchange (E)—M. Haugh, T. G. Slanger, and K. D. Bayes. 44, 837(L) (1966)

HAUSE, C. D.
Magnetic-Rotation Spectra of the 2-0 Vibration-Rotation Band of NO (E/T)—J. L. Aubel and C. D. Hause. 44, 2659 (1966)
HAVERLACK, P. G.
Energy Transfer between *p*-Benzoylbenzoate and Europium Ethylenediaminetetraacetate in Water Solution (E)—R. G. Charles, E. P. Riedel, and P. G. Haverlack. 44, 1356 (1966)
HAYDEN, Howard C.
Ionization Cross Sections for Neutral–Neutral Collisions Utilizing Asymmetric Charge Transfer (E)—Robert C. Amme and Howard C. Hayden. 44, 2828(L) (1966)
HAYES, Edward F.
Energy Differences from the Integral Hellmann–Feynman Formula: Application to $HeH^+$ (T)—Edward F. Hayes and Robert G. Parr. 44, 4650(L) (1966)
HAYES, Robert G.
EPR Studies of the $Mo(CN)_8^{3-}$ Ions. The Geometry of the Ions (E)—Robert G. Hayes. 44, 2210(L) (1966)
HAZEN, E. E.
Electron Paramagnetic Resonance Study of Solutions of Europium in Liquid Ammonia (E)—D. S. Thompson, E. E. Hazen, and J. S. Waugh. 44, 2954 (1966)
HEARST, J. E.
On Polymer Dynamics (T)—R. A. Harris and J. E. Hearst. 44, 2595 (1966)
HEATON, LeRoy
Atomic Structure and Correlation in Liquid Binaries by X-Ray and Neutron Diffraction with Application to NaK (E/T)—E. H. Henninger, R. C. Buschert, and L. Heaton. 44, 1758 (1966)
HECHT, Harry G.
Paramagnetic Resonance Absorption in Tetrakis(pyridine) Copper (II) Peroxydisulfate (E)—Harry G. Hecht and John P. Frazier III. 44, 1718(L) (1966)
HEDBERG, Kenneth
On the Structure of Gaseous $XeF_6$ (E)—K. Hedberg, S. H. Peterson, R. R. Ryan, and B. Weinstock. 44, 1726(L) (1966)
HEIDEMAN, H. G. M.
Resonances in the Elastic and Inelastic Electron Scattering from $N_2$ (E)—H. G. M. Heideman, C. E. Kuyatt, and G. E. Chamberlain. 44, 355 (1966)
Inelastic Electron Scattering from $H_2$ (E)—H. G. M. Heideman, C. E. Kuyatt, and G. E. Chamberlain. 44, 440 (1966)
HEIL, J. F.
Infrared Study of Hydrogen Bonding between Polymers and Methanol: Polypropylene Oxide and Polypropylene Glycol (E)—J. F. Heil and J. M. Prausnitz. 44, 737 (1966)
HEILMEIER, George H.
Possible Ferroelectric Effects in Liquid Crystals and Related Liquids (E)—Richard Williams and George Heilmeier. 44, 638 (1966)
Transient Behavior of Domains in Liquid Crystals (E/T)—George H. Heilmeier. 44, 644 (1966)
HELFRICH, W.
Transients of Volume-Controlled Current and of Recombination Radiation in Anthracene (E)—W. Helfrich and W. G. Schneider. 44, 2902 (1966)
HENDERSON, J. R.
$^1A_2 \leftarrow {}^1A_1$ Transition of Formaldehyde (T)—J. R. Henderson. 44, 3496 (1966)
HENNING, J. C. M.
$^{14}N$ Hyperfine Structure in ESR Spectra of Heterocyclic Anions (E)—J. C. M. Henning. 44, 2139 (1966)
HENNINGER, E. H.
Atomic Structure and Correlation in Liquid Binaries by X-Ray and Neutron Diffraction with Application to NaK (E/T)—E. H. Henninger, R. C. Buschert, and L. Heaton. 44, 1758 (1966)
HENRY, R. J. W.
Photoionization Cross Sections for $C^-$, N, and $O^+$ (T)—R. J. W. Henry. 44, 4357(L) (1966)
HERMAN, R. M.
Center of Dispersion Force in HCl Interacting with Rare-Gas Atoms (T)—R. M. Herman. 44, 1346 (1966)
Finite Nuclear Mass and Relativistic Effects on the Rotational Constant of Molecular Hydrogen (T)—R. Tipping and R. M. Herman. 44, 3112 (1966)
HERRON, John T.
Erratum: Mass-Spectrometric Study of the Reactions of O Atoms with NO and $NO_2$ (E)—Fritz S. Klein and John T. Herron. [41, 1285 (1964)] 44, 3645 (1966)
HERSCHBACH, D. R.
Reactive Scattering in Molecular Beams: Velocity Analysis of KBr Formed in the $K + Br_2$ Reaction (E)—J. H. Birely and D. R. Herschbach. 44, 1690 (1966)
Chemiluminescence in Molecular Beams. Electronic Excitation of Alkali Atoms in Exchange Reactions of Vibrationally Excited Alkali Halides (E)—M. C. Moulton and D. R. Herschbach. 44, 3010 (1966)
HERZFELD, Fred
Vibrational Levels of the $^2D$-$E$ State of $Ce^{3+}$ in $CaF_2$ (T/E)—Charles W. Struck and Fred Herzfeld. 44, 464 (1966)
HERZFELD, Karl F.
Density and the Metallic State (T)—Karl F. Herzfeld. 44, 429(L) (1966)
HESS, G. G.
Ionic Reactions in Gaseous Monosilane (E)—G. G. Hess and F. W. Lampe. 44, 2257 (1966)
HEWITT, E. W.
Glow-Discharge Shock Tube for Studying Chemiluminescent, Surface-Catalytic, and Gas-Phase Reaction Rates; Temperature Dependence of NO–O and CO–O Chemiluminescence (E)—R. A. Hartunian, W. P. Thompson, and E. W. Hewitt. 44, 1765 (1966)
HILDENBRAND, Donald L.
Mass-Spectrometric Determination of the Dissociation Energy of Beryllium Monofluoride (E)—Donald L. Hildenbrand and Edmond Murad. 44, 1524 (1966)
HILL, M. P.
Chemisorption Studies of Nitrogen on Polycrystalline Tungsten (E)—M. P. Hill, S. M. A. Lecchini, and B. A. Pethica. 44, 2170 (1966)
HILLIER, Ian H.
Theoretical Studies of Transannular Interactions. I. Benzene Excimer Fluorescence and the Singlet States of the Paracyclophanes (T)—M. T. Vala, Jr., I. H. Hillier, S. A. Rice, and J. Jortner. 44, 23 (1966)
HINCKLEY, C. C.
Electron Spin Resonance Linewidths of Manganese (II) Ions in Concentrated Aqueous Solutions (T/E)—C. C. Hinckley and L. O. Morgan. 44, 898 (1966)
HINDMAN, J. C.
Proton Resonance Shift of Water in the Gas and Liquid States (T/E)—J. C. Hindman. 44, 4582 (1966)
HIRAI, Masamitsu
Electron Traps in Deformed Alkali Halide Crystals (E)—Masamitsu Hirai and Allen B. Scott. 44, 1753 (1966)

HIROTA, Noboru
Use of Triplet-State Energy Transfer in Obtaining Singlet-Triplet Absorption in Organic Crystals (E)—Noboru Hirota. 44, 2199(L) (1966)
HIRSCHFELDER, Joseph O.
Functional Representation of the Wave Operator (T)—Joseph O. Hirschfelder. 44, 273 (1966)
Improvement of Uncoupled Hartree-Fock Expectation Values for Physical Properties (T)—Debbie Fu-Tai Tuan, S. T. Epstein, and J. O. Hirschfelder. 44, 431 (1966)
Relativistic Intermolecular Forces, Moderately Long Range (T)—William J. Meath and Joseph O. Hirschfelder. 44, 3197 (1966)
Long-Range (Retarded) Intermolecular Forces (T)—William J. Meath and Joseph O. Hirschfelder. 44, 3210 (1966)
HIRST, Robert C.
Interpretation of NMR Spectra. I. $A_2BX_x$ and $A_2BK_k$ Spectra (E)—R. C. Hirst, D. M. Grant, and E. G. Paul. 44, 4305 (1966)
HIRTH, J. P.
Effect of Beam Temperature on the Heterogeneous Nucleation of Zinc from the Vapor (E)—V. Ruth, K. L. Moazed, and J. P. Hirth. 44, 2093 (1966)
HISATUNE, I. C.
Infrared Spectrum of Carbon Dioxide Anion Radical (E)—K. O. Hartman and I. C. Hisatsune. 44, 1913 (1966)
HOCHSTRASSER, Robin M.
Singlet-Triplet Absorption Spectra of Single Crystals of the *p*-Dihalogenated Benzenes (E)—George Castro and Robin M. Hochstrasser. 44, 412(L) (1966)
On the Nonconfirmation of the Dual Emission Properties of Biphenylene (E)—Robin M. Hochstrasser and Robert D. McAlpine. 44, 3325 (1966)
HODGSON, W. G.
ESR and Phosphorescence Spectra of the Triplet States of Phenyl *s*-Triazines and Phenyl Benzenes. (E/T)—J. S. Brinen, J. G. Koren, and W. G. Hodgson. 44, 3095 (1966)
HOEVE, C. A. J.
Adsorption Isotherms for Polymer Chains Adsorbed from Θ Solvents (T)—C. A. J. Hoeve. 44, 1505 (1966)
HOFFMAN, David K.
On a Derivation of a Quantum-Mechanical Linearized Boltzmann Equation (T)—David K. Hoffman. 44, 2644 (1966)
HOLLEMAN, Gerald W.
Spectroscopic Evidence for Rotation-Translation Coupling in Liquid State: Infrared Absorption of HD in Liquid Argon (E/T)—Gerald W. Holleman and George E. Ewing. 44, 3121 (1966)
HOLT, A.
Dielectric Studies. IX. Relaxation Processes of Anisole- and Fluorine-Substituted Anisoles (T)—D. B. Farmer, A. Holt, and S. Walker. 44, 4116 (1966)
HOLVERSON, E. L.
Electrical Conduction by Oxygen Ions in Cerium Oxide (E)—E. L. Holverson and C. J. Kevane. 44, 3692 (1966)
HONDA, A.
EPR Study of the Dimerization of Wurster's Blue Perchlorate in Solution (E)—A. Kawamori, A. Honda, N. Joo, K. Suzuki, and Y. Ooshika. 44, 4363(L) (1966)
HOOVER, William G.
Pressure and Entropy for Hard Particles at High Density (T)—William G. Hoover. 44, 221 (1966)
HORNE, R. A.
Electrical Conductivity and Structure of Aqueous $MgSO_4$ Solutions in the −2°-to-+12° C Range (E/T)—R. A. Horne and D. S. Johnson. 44, 2946 (1966)
HORNIG, Donald F.
Rotational States of a Tetrahedron in a Cubic Crystal Field (T)—Harry F. King and Donald F. Hornig. 44, 4520 (1966)
HOYLAND, James R.
Single-Center Calculations on the $^2\Pi_u$ Excited State of $H_2^+$ (T)—James R. Hoyland. 44, 2533 (L) (1966)
HUANG, Nai Li
Covalency Parameters and the *g* Factor for $Ni^{2+}$:$KMgF_3$ (T)—Nai Li Huang and E. Šimánek. 44, 2524 (1966)
HUDDA, F. G.
Atomic View of Surface Self-Diffusion: Tungsten on Tungsten (E)—Gert Ehrlich and F. G. Hudda. 44, 1039 (1966)
HUDSON, R. P.
Spin-Lattice Relaxation in Some Rare-Earth Trichlorides (E)—B. W. Mangum and R. P. Hudson. 44, 704 (1966)
HUGHES, R. C.
Pressure-Induced Phase Transition in Wurster's Blue Perchlorate (E)—R. C. Hughes, A. W. Merkl, and H. M. McConnell. 44, 1720(L) (1966)
HUGHES, V. W.
Muonium Chemistry (E)—R. M. Mobley, J. M. Bailey, W. E. Cleland, V. W. Hughes, and J. E. Rothberg. 44, 4354(L) (1966)
HUMMEL, Andries
Ionization of Liquids by Radiation. I. Methods for Determination of Ion Mobilities and Ion Yields at Low Voltage (E)—Andries Hummel and A. O. Allen. 44, 3426 (1966)
Ionization of Liquids by Radiation. II. Dependence of the Zero-Field Ion Yield on Temperature and Dielectric Constant (E/T)—A. Hummel, A. O. Allen, and F. H. Watson, Jr. 44, 3431 (1966)
HUNTER, Joseph L.
Vibrational Relaxation in Liquid Dibromomethane (E)—Joseph L. Hunter and Henry D. Dardy. 44, 3637(L) (1966)
HURST, G. S.
Interaction of Thermal Electrons with Polarizable and Polar Molecules (E/T)—L. G. Christophorou, G. S. Hurst, and A. Hadjiantoniou. 44, 3506 (1966)
HURST, R. P.
Approximations to Hartree-Fock Perturbation Theory (T)—P. W. Langhoff, M. Karplus, and R. P. Hurst. 44, 505 (1966)
HURT, Norman
On the Kinetic Theory of Dense Fluids (T)—Norman Hurt and Stuart A. Rice. 44, 2155 (1966)
HUTCHISON, Clyde A. Jr.
Optical Absorption Spectra of Substituted Methylenes Oriented in Single Crystals (E)—G. Closs, C. A. Hutchison Jr., and B. E. Kohler. 44, 413(L) (1966)
IBERS, James A.
Crystal Structure of $O_2PtF_6$: A Neutron-Diffraction Study (E/T)—James A. Ibers and Walter C. Hamilton. 44, 1748 (1966)
ICHIKAWA, Takahisa
Electron Spin Resonance of a γ-Irradiated Single Crystal of a Hydrogen Peroxide–Urea Addition Compound at 77° K (E)—T. Ichikawa, M. Iwasaki, and K. Kuwata. 44, 2979 (1966)
IMAI, Nobuhise
Multicomponent Polyelectrolyte Solutions. Part III. Determination of Activity of KCl in Potassium Polyvinylsulfonate Solutions by Use of a Cation-Sensitive Glass Electrode (E)—Nobuhise Imai and Henryk Eisenberg. 44, 130 (1966)
IMAN-RAHAJOE, S.
Numerical Evaluation of Barrier Penetration and Resonance Effects on Phase Shifts (T)—R. B. Bernstein, C. F. Curtiss, S. Imam-Rahajoe, and H. T. Wood. 44, 4072 (1966)

INDELLI, Antonio
Salt Effects in the Reaction of Peroxydisulfate with Thiosulfate (E)—A. Indelli, V. Bartocci, F. Ferranti, and M. G. Lucarelli. 44, 2069 (1966)
INGALLS, R. B.
On the Thermal-Spike Model of Low LET Radiolysis (T)—R. B. Ingalls. 44, 1308(L) (1966)
INGHRAM, Mark G.
Field-Induced Quantum States at a Surface (E/T)—A. J. Jason, R. P. Burns, A. C. Parr, and M. G. Inghram. 44 4351(L) (1966)
INNES, D.
Structure of Alpha GeTe (E)—J. Goldak, C. S. Barrett, D. Innes, and W. Youdelis. 44, 3323 (1966)
INUZUKA, Kōzō
Electronic Spectra and Structures of Tropone and Heptafulvene (T)—Kōzō Inuzuka and Toshio Yokota. 44, 911 (1966)
ITO, Mitsuo
Lattice Vibrations of Pyrazine Crystal (E)—Mitsuo Ito and Tadayoshi Shigeoka. 44, 1001 (1966)
IWAMOTO, Reikichi
Vibrational Spectra of Trioxane and Trioxane-$d_6$ (E)—M. Kobayashi, R. Iwamoto, and H. Tadokoro. 44, 922 (1966)
IWASAKI, Machio
Electron Spin Resonance of a $\gamma$-Irradiated Single Crystal of a Hydrogen Peroxide–Urea Addition Compound at 77°K (E)—T. Ichikawa, M. Iwasaki, and K. Kuwata. 44, 2979 (1966)
JACKSON, A. G.
Low-Energy Electron Diffraction Study of Molybdenum (110) Surfaces (E)—T. W. Haas and A. G. Jackson. 44, 2921 (1966)
JACKSON, Julius L.
Intermolecular Obstruction in Rubber Elasticity Theory (T)—J. L. Jackson, M. C. Shen, and D. A. McQuarrie. 44, 2388 (1966)
JACOBS, P. W. M.
Erratum: Polarization Effects in the Ionic Conductivity of Alkali Halide Crystals. II. Current-Time Dependence (E)—A. R. Allnatt, P. W. M. Jacobs, and J. N. Maycock. [43, 2526 (1965)] 44, 3645 (1966)
JACOX, Marilyn E.
Matrix-Isolation Study of the Infrared and Ultraviolet Spectra of the Free Radical CNN (E)—Dolphus E. Milligan and Marilyn E. Jacox. 44, 2850 (1966)
Infrared Spectrum of the Free Radical $CF_3$ Isolated in Inert Matrices (E)—D. E. Milligan, M. E. Jacox, and J. J. Comeford. 44, 4058(L) (1966)
JARNAGIN, R. C.
Delayed Ionization of Excited Phenanthrene and Anthracene in Solution (E)—Allan Kawada and R. C. Jarnagin. 44, 1919 (1966)
JASON, Andrew J.
Field-Induced Quantum States at a Surface (E/T)—A. J. Jason, R. P. Burns, A. C. Parr, and M. G. Inghram. 44 4351(L) (1966)
JAYNE, John P.
Electron Paramagnetic Resonance of Oxygen on ZnO and Ultraviolet-Irradiated MgO (E/T)—Jack H. Lunsford and John P. Jayne. 44, 1487 (1966)
Study of CO Radicals on Magnesium Oxide with Electron Paramagnetic Resonance Techniques (E/T)—Jack H. Lunsford and John P. Jayne. 44, 1492 (1966)
JEFFREY, G. A.
Polyhedral Clathrate Hydrates. XI. Structure of Tetramethylammonium Hydroxide Pentahydrate (E)—R. K. McMullan, T. C. W. Mak, and G. A. Jeffrey. 44, 2338 (1966)
JELINEK, T. M.
Optical Properties of Polystyrene in the Vacuum Ultraviolet (E)—J. G. Carter, T. M. Jelinek, R. N. Hamm, and R. D. Birkhoff. 44, 2266 (1966)
JENNINGS, B. R.
Light-Scattering Study of Tobacco Mosaic Virus Solutions When Subjected to Electric Fields (E)—B. R. Jennings and H. G. Jerrard. 44, 1291 (1966)
JENNINGS, K. R.
Decomposition of Tropylium and Substituted Tropylium Ions (E)—K. R. Jennings and J. H. Futrell. 44, 4315 (1966)
Erratum: Metastable Transitions in the Mass Spectrum of Benzene (E)—K. R. Jennings. [43, 4176 (1965)] 44, 4365 (1966)
JEPSEN, D. W.
Calculation of the Dielectric Constant of a Fluid by Cluster Expansion Methods (T)—D. W. Jepsen. 44, 774 (1966)
JERRARD, H. G.
Light-Scattering Study of Tobacco Mosaic Virus Solutions When Subjected to Electric Fields (E)—B. R. Jennings and H. G. Jerrard. 44, 1291 (1966)
JEUNEHOMME, M.
Oscillator Strengths of the First Negative and Second Positive Systems of Nitrogen (E)—M. Jeunehomme. 44, 2672 (1966)
Oscillator Strengths of the Negative Systems of Oxygen (E)—M. Jeunehomme. 44, 4253 (1966)
JHON, Mu Shik
Significant-Structure Theory Applied to Water and Heavy Water (T)—Mu Shik Jhon, J. Grosh, T. Ree, and H. Eyring. 44, 1465 (1966)
JOHANNESEN, Rolf B.
NMR Studies of Inorganic Fluorides. I. High-Resolution $^{19}F$ Spectra of $Si_2F_6$ and $(SiF_3)_2O$ (E)—R. B. Johannesen, T. C. Farrar, F. E. Brinckman, and T. D. Coyle. 44, 962 (1966)
JOHNSON, Carl E.
Studies of Lithium Hydride Systems. II. Solid-Liquid Equilibrium in the Sodium Chloride–Lithium Hydride System (E)—C. E. Johnson, S. E. Wood, and C. E. Crouthamel. 44, 880 (1966)
Studies of Lithium Hydride Systems. III. Solid-Liquid Equilibrium in the Lithium Bromide–Lithium Hydride and Lithium Iodide–Lithium Hydride Systems (E/T)—C. E. Johnson, S. E. Wood, and C. E. Crouthamel. 44, 884 (1966)
JOHNSON, D. S.
Electrical Conductivity and Structure of Aqueous $MgSO_4$ Solutions in the −2°-to-+12°C Range (E/T)—R. A. Horne and D. S. Johnson. 44, 2946 (1966)
JOHNSON, G. E.
Photoconductivity in Rigid Organic Solutions. I. Phenomenology of the Photocurrents (E)—G. E. Johnson and A. C. Albrecht. 44, 3162 (1966)
Photoconductivity in Rigid Organic Solutions. II. Initial Rate Studies of Charge-Carrier Production and the Two-Photon Requirement (E)—G. E. Johnson and A. C. Albrecht. 44, 3179 (1966)
JOHNSON, L. F.
Energy Transfer between Rare-Earth Ions (E)—L. G. Van Uitert and L. F. Johnson. 44, 3514 (1966)

JOHNSON, Philip M.
Carbon Dioxide as an Electron Trap in 3-Methylpentane at 77°K (E)—Philip M. Johnson and A. C. Albrecht. 44, 1845 (1966)

JOHNSTON, D. R.
Magnetic-Dipole Intensities and Zeeman Effect in $Cs_2UCl_6$ (E)—D. Johnston, R. Satten, and E. Wong. 44, 687 (1966)
EPR Spectra of $Gd^{3+}$-Doped $LaBr_3$ and $La_2(SO_4)_3 \cdot 9H_2O$ (E/T)—D. R. Johnston, E. Y. Wong, and O. M. Stafsudd. 44, 2693 (1966)
Covalency Effects in $U^{4+}$ Halide Complexes (E)—D. R. Johnston, R. A. Satten, C. L. Schreiber, and E. Y. Wong. 44, 3141(L) (1966)

JOHNSTON, G. T.
EPR of $Co^{2+}$ in Magnesium Acetate·$4H_2O$ (E)—J. A. Cowen and G. T. Johnston. 44, 2217(L) (1966)

JONES, I. Wynn
Model for the Thermal Conductivity of Liquid Hydrogen (T)—I. Wynn Jones. 44, 4360(L) (1966)

JONES, L. H.
Force Constants for MC, CN Interaction in $Hg(CN)_2$ (E)—J. M. Smith and L. H. Jones. 44, 3643(L) (1966)

JOO, N.
EPR Study of the Dimerization of Wurster's Blue Perchlorate in Solution (E)—A. Kawamori, A. Honda, N. Joo, K. Suzuki, and Y. Ooshika. 44, 4363(L) (1966)

JORDAN, Peter C.
Lower Electronic Levels of the Radicals SiH, $SiH_2$, and $SiH_3$ (T)—Peter C. Jordan. 44, 3400 (1966)

JORTNER, Joshua
Theoretical Studies of Transannular Interactions. I. Benzene Excimer Fluorescence and the Singlet States of the Paracyclophanes (T)—M. T. Vala, Jr., I. H. Hillier, S. A. Rice, and J. Jortner. 44, 23 (1966)
Conjecture on Resonant Transfer of Vibrational Energy and Radiationless Transitions in the Solid Phase: The Lifetime of Triplet Anthracene (T)—H. Y. Sun, J. Jortner, and S. A. Rice. 44, 2539(L) (1966)
Cooperative Exciton States in Molecular Crystals (T)—Joshua Jortner and Stuart A. Rice. 44, 3364 (1966)
Do Exciton States Exist in the Liquid Phase? (T)—Stuart A. Rice and Joshua Jortner. 44, 4470 (1966)

JOSHI, Bhairav D.
Study of the $H_3^+$ Molecule Using Self-Consistent-Field One-Center Expansion Approximation (T)—Bhairav D. Joshi. 44, 3627 (1966)

JUDD, B. R.
Hypersensitive Transitions in Rare-Earth Ions (T)—B. R. Judd. 44, 839(L) (1966)

KACHHAVA, C. M.
Equation of State, Grüneisen Constant, and Interatomic Forces (T)—C. M. Kachhava and S. C. Saxena. 44, 986 (1966)

KALDOR, U.
LCAO-SCF Computations for Hydrogen Peroxide (T)—U. Kaldor and I. Shavitt. 44, 1823 (1966)

KANT, Arthur
High-Temperature Equilibrium in the Germanium—Nickel System and the Dissociation Energy of GeNi (E)—Arthur Kant. 44, 2450 (1966)

KAPLAN, Jerome I.
Electron Spin Resonance Linewidths—Magnetic-Field Correction (T)—Jerome I. Kaplan. 44, 4630 (1966)

KAPUY, Ede
Applicability of Almost Strongly Orthogonal Geminals in Many-Electron Wavefunctions (T)—Ede Kapuy. 44, 956 (1966)

KARL, John H.
Generalized Sternheimer Potential (T)—Saul T. Epstein and John H. Karl. 44, 4347 (1966)

KARLE, J.
Molecular Structure of $CCl_3NO_2$ by Electron Diffraction (E)—R. E. Knudsen, C. F. George, and J. Karle. 44, 2334 (1966)

KARPLUS, M.
Approximations to Hartree-Fock Perturbation Theory (T)—P. W. Langhoff, M. Karplus, and R. P. Hurst. 44, 505 (1966)
Theoretical Investigations of Reactive Collisions in Molecular Beams: $K+CH_3I$ and Related Systems (T)—L. M. Raff and M. Karplus. 44, 1212 (1966)
Spin Delocalization in the Allyl and Ethyl Radicals (T)—D. Lazdins and M. Karplus. 44, 1600 (1966)
Distortional Effects on the Ethane Internal-Rotation Barrier (T)—O. J. Sovers and M. Karplus. 44, 3033 (1966)
Studies of Zero-Field Splittings in Aromatic Molecules (T)—M. Godfrey, C. W. Kern, and M. Karplus. 44, 4459 (1966)

KASAI, Paul H.
ESR of $Cu(NO_3)_2$ and $CuF_2$ Molecules Oriented in Neon and Argon Matrices at 4°K (E)—P. H. Kasai, E. B. Whipple, and W. Weltner, Jr. 44, 2581 (1966)

KASHIWAGI, Michio
Electron Spin Resonance Study of Radical Pairs Trapped in X-Irradiated Single Crystals of Dimethylglyoxime-O,O-$d_2$, Glyoxime, and Methylglyoxime at Liquid-Nitrogen Temperature (E)—Yukio Kurita and Michio Kashiwagi. 44, 1727 (1966)
Electron Spin Resonance of Irradiated Single Crystals of Succinamide (E)—Michio Kashiwagi. 44, 2823(L) (1966)

KASPER, Jerome V. V.
Spin Statistics Isomerization in Methane (T/E)—R. F. Curl, Jr., J. V. V. Kasper, K. S. Pitzer, and K. Sathianandan. 44, 4636(L) (1966)

KASPER, Robert J.
Relationship Between Magnetic Curie Points and Cell Sizes of Solid Solutions with the Ordered Perovskite Structure (E)—F. S. Galasso, F. C. Douglas, and R. J. Kasper. 44, 1672 (1966)

KASSNER, James L., Jr.
Homogeneous Nucleation Measurements of Water Vapor in Helium (E)—James L. Kassner, Jr., and Raymond J. Schmitt. 44, 4166 (1966)

KATAGIRI, S.
Vibrational Assignment of Anthracene-$d_{10}$ from the Fluorescence and Absorption Spectra (E)—A. Bree, S. Katagiri, and S. R. Suart. 44, 1788 (1966)

KATO, Yoshifumi
Convergence of High-Resolution NMR Spectral Analysis by Iterative Methods (T/E)—Yoshifumi Kato and A. Saika. 44, 2824(L) (1966)

KATON, J. E.
Long-Range Nonbonded Interactions and Rotational Isomerism in Acyl Halides (E/T)—J. E. Katon and W. R. Feairheller, Jr. 44, 144 (1966)

KATZ, B.
Infrared Spectra of HCl in Pure and Impure Noble-Gas Matrices. Absolute Intensities (E)—J. M. P. J. Verstegen, H. Goldring, S. Kimel, and B. Katz. 44, 3216 (1966)

KATZ, J. L.
High-Temperature Equation of State (T)—D. A. McQuarrie and J. L. Katz. 44, 2393 (1966)

KAUFMAN, F.
Quenching of $NO_2$ Fluorescence (E)—G. H. Myers, D. M. Silver, and F. Kaufman. 44, 718 (1966)

KAUFMAN, R. Gilbert
Luminescence Processes Generated by Ionizing Radiation in KI and KI:Tl (E)—R. Gilbert Kaufman and Wayne B. Hadley. 44, 1311 (1966)
KAUFMANN, William J.
Charge Transfer between $N^+$ and O (T)—William J. Kaufmann. 44, 414(L) (1966)
KAWADA, Allan
Delayed Ionization of Excited Phenanthrene and Anthracene in Solution (E)—Allan Kawada and R. C. Jarnagin. 44, 1919 (1966)
KAWAMORI, A.
EPR Study of the Dimerization of Wurster's Blue Perchlorate in Solution (E)—A. Kawamori, A. Honda, N. Joo, K. Suzuki, and Y. Ooshika. 44, 4363(L) (1966)
KAWASAKI, Koji
Adsorption and Oxidation of Carbon Monoxide on Clean Films of Palladium and Nickel (E)—K. Kawasaki, T. Sugita, and S. Ebisawa. 44, 2313 (1966)
KAY, M. I.
Crystal Structure by Neutron Diffraction and the Antiferroelectric Phase Transition in Copper Formate Tetrahydrate (E)—K. Okada, M. I. Kay, D. T. Cromer, and I. Almodovar. 44, 1648 (1966)
KEARNS, David R.
Electronic-Relaxation Processes in Acetone (E)—Raymond F. Borkman and David R. Kearns. 44, 945 (1966)
Photoelectric Emission from Aromatic-Hydrocarbon-Alkali-Metal Films (E)—Alfred Marchetti and David R. Kearns. 44, 1301(L) (1966)
Generation of Charge Carriers in Molecular Crystals by Direct Optical Transitions to the Conducting State (T)—James J. Ewing and David R. Kearns. 44, 3139(L) (1966)
KEELER, R. Norris
Radial Distribution Function of Hard Spheres (T)—F. H. Ree, R. N. Keeler, and S. L. McCarthy. 44, 3407 (1966)
KELLER, J. M.
Preparation of Highly Enriched Carbon-13 by Thermal Diffusion of Methane (E)—W. M. Rutherford and J. M. Keller. 44, 723 (1966)
KELLER, Warren D.
NMR Spectrum of 3-Chlorothietane, an Example of Complete NMR Spectral Analysis by Computer Techniques (E)—W. D. Keller, T. R. Lusebrink, and C. H. Sederholm. 44, 782 (1966)
KELLEY, J. Daniel
Comparison of Approximate Translational-Vibrational Energy-Transfer Formulas with Exact Classical Calculations (T)—J. Daniel Kelley and Max Wolfsberg. 44, 324 (1966)
KELLOGG, R. E.
Second Triplet State of Anthracene (E)—R. E. Kellogg. 44, 411(L) (1966)
KEMPTER, Charles P.
Erratum: Thermal Expansion of a Uranium Monocarbide-Zirconium Monocarbide Solid Solution (E)—Charles P. Kempter and Roy G. Merryman. [43, 1736 (1965)] 44, 3645 (1966)
KENNEDY, George C.
Melting of Iodine at High Pressures (E)—W. Klement, Jr., L. H. Cohen, and G. C. Kennedy. 44, 3697 (1966)
KENNEDY, Larry Z.
Selection Rules for *R*-Center Absorption (T)—Larry Z. Kennedy. 44, 1746 (1966)
KENT, J. E.
Chemical Shifts of $^{14}N$ in the NMR Spectra of Linear Triatomic Molecules and Ions (T/E)—J. E. Kent and E. L. Wagner. 44, 3530 (1966)
KERN, C. W.
Studies of Zero-Field Splittings in Aromatic Molecules (T)—M. Godfrey, C. W. Kern, and M. Karplus. 44, 4459 (1966)
KEVAN, Larry
Energy Transfer in Radiolysis of Rare-Gas-$C_2F_6$ Mixtures (E)—Larry Kevan. 44, 683 (1966)
KEVANE, C. J.
Electrical Conduction by Oxygen Ions in Cerium Oxide (E)—E. L. Holverson and C. J. Kevane. 44, 3692 (1966)
KEVORKIAN, H. K.
Diffusion in Organic Crystals. II. Lattice and Subgrain-Boundary Diffusion (E)—P. J. Reucroft, H. K. Kevorkian, and M. M. Labes. 44, 4416 (1966)
KEYSER, L. F.
Infrared Spectra of HCl and DCl in Solid Rare Gases. I. Monomers (E/T)—L. F. Keyser and G. W. Robinson. 44, 3225 (1966)
KIEFER, John H.
Vibrational Relaxation of Deuterium by a Quantitative Schlieren Method (E)—John H. Kiefer and Robert W. Lutz. 44, 658 (1966)
Vibrational Relaxation of Hydrogen (E)—John H. Kiefer and Robert W. Lutz. 44, 668 (1966)
KILPATRICK, John E.
On the Quantum-Mechanical Pair-Correlation Function of $^4He$ Gas at Low Temperatures (T)—S. Y. Larsen, K. Witte, and J. E. Kilpatrick. 44, 213 (1966)
KIM, Hongsuk H.
Vacuum-Ultraviolet Absorption Spectrum of Carbon Suboxide (E)—Hongsuk H. Kim and John L. Roebber. 44, 1709(L) (1966)
KIM, Hyunyong
Microwave Spectra, Dipole Moments, Structure, and Ring Puckering Vibration of Cyclobutyl Chloride and Cyclobutyl Fluoride (E)—Hyunyong Kim and William D. Gwinn. 44, 865 (1966)
KIM, Jang H.
Study of the Vapors of Liquid Lead and Bismuth (E)—Jang H. Kim and Andrew Cosgarea, Jr. 44, 806 (1966)
KIM, Y. W.
Hyperfine Coupling Constants of 2,2-Bis-*p*-nitrophenyl-1-picrylhydrazyl (E/T)—J. S. Chalmers and Y. W. Kim. 44, 112 (1966)
Nuclear Hyperfine Coupling Constants of Diphenyl Picryl Hydrazyl (E/T)—Y. W. Kim and J. S. Chalmers. 44, 3591 (1966)
KIMEL, S.
Infrared Spectra of HCl in Pure and Impure Noble-Gas Matrices. Absolute Intensities (E)—J. M. P. J. Verstegen, H. Goldring, S. Kimel, and B. Katz. 44, 3216 (1966)
Rotation-Translation Coupling Spectrum of Matrix-Isolated Diatomic Molecules in the Near and Far Infrared (T)—H. Friedmann and S. Kimel. 44, 4359(L) (1966)
KIMURA, H.
Steady-State Studies in the Conventional Verneuil Process—the Trajection (Melting) Zone (E/T)—R. C. Pastor, A. C. Pastor, H. Kimura, and K. Arita. 44, 4486 (1966)
KIMURA, Minoru
Magnetic Resonances in Microwave-Discharged Gases by Double-Tuning Cavity Resonator (E)—T. Hada, M. Kimura, S. Hattori, and Z. Kuri. 44, 4637(L) (1966)
KING, A. D., Jr.
Erratum: Influence of Hydrostatic Pressure upon Hydroxy and Methoxy Isomers of Substituted Anthracenes and Naphthacene (E)—J. M. McKelvey and A. D. King, Jr. [43, 3178 (1965)] 44, 2542 (1966)

KING, Harry F.
Rotational States of a Tetrahedron in a Cubic Crystal Field (T)—Harry F. King and Donald F. Hornig. 44, 4520 (1966)
KING, James, Jr.
Theory of the Low-Temperature Chromatographic Separation of the Hydrogen Isotopes (T)—James King, Jr., and Sidney W. Benson. 44, 1007 (1966)
KING, J. S.
Neutron Scattering in Stretch-Oriented Polyethylene (E/T)—W. Myers, G. C. Summerfield, and J. S. King. 44, 184 (1966)
KINSEY, J. L.
Quantum Statistical Mechanics of Isotope Effects. II. The Surface Tension and Internal Energy (T)—J. M. Deutch, J. L. Kinsey, and I. Oppenheim. 44, 2270 (1966)
KIRTMAN, Bernard
Diatomic Forces and Force Constants. I. Errors in the Hellmann-Feynman Method (T)—Margaret Lowe Benston and Bernard Kirtman. 44, 119 (1966)
Diatomic Forces and Force Constants. II. Variation-Perturbation Method (T)—Margaret Lowe Benston and Bernard Kirtman. 44, 126 (1966)
Variation-Perturbation Treatment of Electron Correlation in Molecules (T)—Bernard Kirtman and Daniel R. Decious. 44, 830(L) (1966)
KISER, Robert W.
Unimolecular Decomposition of Negative Ions Formed from the Transition-Metal Carbonyls of Ni, Fe, Cr, Mo, and W (E/T)—Robert E. Winters and Robert W. Kiser. 44, 1964 (1966)
KISSELL, F.
Magnetic Characteristics of $ZrNi_5$ and $HfNi_5$ and Some Lanthanide–Nickel Compounds Having the $Th_7Ni_3$ Structure (E)—F. Kissell, T. Tsuchida, and W. E. Wallace. 44, 4651(L) (1966)
KISTEMAKER, J.
Gross- and Partial-Ionization Cross Sections for Electrons on Water Vapor in the Energy Range 0.1-20 keV (E)—J. Schutten, F. J. de Heer, H. R. Moustafa, A. J. H. Boerboom, and J. Kistemaker. 44, 3924 (1966)
Partial Ionization Cross Sections of He, Ne, $H_2$, and $CH_4$ for Electrons from 20 to 500 eV (E)—B. Adamczyk, A. J. H. Boerboom, B. L. Schram, and J. Kistemaker. 44, 4640(L) (1966)
KISTIAKOWSKY, G. B.
Reactions of Metal Carbonyls with Active Nitrogen (E)—W. R. Brennen and G. B. Kistiakowsky. 44, 2695 (1966)
KIVELSON, Daniel
ESR Linewidths in Solution. I. Experiments on Anisotropic and Spin-Rotational Effects (E)—Raymond Wilson and Daniel Kivelson. 44, 154 (1966)
ESR Linewidths in Solution. II. Analysis of Spin-Rotational Relaxation Data (T)—P. W. Atkins and Daniel Kivelson. 44, 169 (1966)
ESR Linewidths in Solution. III. Experimental Study of the Solvent Dependence of Anisotropic and Spin-Rotational Effects (E)—Raymond Wilson and Daniel Kivelson. 44, 4440 (1966)
ESR Linewidths in Solution. IV. Experimental Studies of Anisotropic and Spin-Rotational Effects in Copper Complexes (E/T)—Raymond Wilson and Daniel Kivelson. 44, 4445 (1966)
KLAPPMEIER, F. H.
Luminescence and Energy Transfer in Some Aliphatic α-Diketones (E)—H. H. Richtol and F. H. Klappmeier. 44, 1519 (1966)
KLEIN, Fritz S.
Kinetic Isotope Effects in the Reaction between Atomic Chlorine and Molecular Hydrogen. Tunnel Coefficients of the Hydrogen Atom through an Asymmetric Potential Barrier (E/T)—Avigdor Persky and Fritz S. Klein. 44, 3617 (1966)
Erratum: Mass-Spectrometric Study of the Reactions of O Atoms with NO and $NO_2$ (E)—Fritz S. Klein and John T. Herron. [41, 1285 (1964)] 44, 3645 (1966)
KLEMENT, William, Jr.
Melting of Iodine at High Pressures (E)—W. Klement, Jr., L. H. Cohen, and G. C. Kennedy. 44, 3697 (1966)
KLOTS, Cornelius E.
Energy-Partition Parameters in Radiation Studies of Molecular Gases (E)—Cornelius E. Klots. 44, 2715 (1966)
KNEIZYS, Francis X.
Coriolis Interaction in the $\nu_1$ and $\nu_3$ Fundamentals of Ozone (T/E)—Shepard A. Clough and Francis X. Kneizys. 44, 1855 (1966)
Reduction of the Fourth-Order Asymmetric-Rotor Hamiltonian (T)—F. X. Kneizys, J. N. Freedman, and S. A. Clough. 44, 2552 (1966)
KNOX, R. S.
Direct Radiative Exciton-Exciton Annihilation (T)—R. S. Knox and C. E. Swenberg. 44, 2577 (1966)
KNUDSEN, R. E.
Molecular Structure of $CCl_3NO_2$ by Electron Diffraction (E)—R. E. Knudsen, C. F. George, and J. Karle. 44, 2334 (1966)
KOBAYASHI, Masamichi
Vibrational Spectra of Trioxane and Trioxane-$d_6$ (E)—M. Kobayashi, R. Iwamoto, and H. Tadokoro. 44, 922 (1966)
KOHIN, Roger P.
Electron Spin Resonance Studies of γ-Irradiated Ferroelectric Methylammonium Alum Crystals (E)—Roger P. Kohin and Paul G. Nadeau. 44, 691 (1966)
Ammonio-Group β-Proton Hyperfine Coupling Constants in π-Electron Radicals (T)—Raymond C. DuVarney and Roger P. Kohin. 44, 2532(L) (1966)
KOHLER, Bryan E.
Optical Absorption Spectra of Substituted Methylenes Oriented in Single Crystals (E)—G. Closs, C. A. Hutchison Jr., and B. E. Kohler. 44, 413(L) (1966)
KOLKER, H. J.
Nonequilibrium Effects in Recombination-Dissociation Kinetics (T)—H. J. Kolker. 44, 582 (1966)
KONINGSTEIN, J. A.
Crystal-Field Studies of Excited States of Trivalent Neodymium in Yttrium Gallium Garnet and Yttrium Aluminum Garnet (E/T)—J. A. Koningstein. 44, 3957 (1966)
KONO, R.
Viscoelastic Relaxation and Non-Arrhenius Behavior in Diols (E)—R. Kono, G. E. McDuffie, and T. A. Litovitz. 44, 965 (1966)
KOONS, H. C.
Energy Levels of the Compound State of $N_2$ Near 2.3 eV (E)—G. J. Schulz and H. C. Koons. 44, 1297(L) (1966)
KOPELMAN, Raoul
Vibrational Exciton Splitting, Fermi Resonance, and Crystal Structure of Methyl Iodide (T/E)—Raoul Kopelman. 44, 3547 (1966)
KOREN, J. G.
ESR and Phosphorescence Spectra of the Triplet States of Phenyl s-Triazines and Phenyl Benzenes. (E/T)—J. S. Brinen, J. G. Koren, and W. G. Hodgson. 44, 3095 (1966)

KOSKI, W. S.
Reaction of $HD^+$ with Rare Gases (E)—M. A. Berta, B. Y. Ellis, and W. S. Koski. 44, 4612 (1966)

KOURI, Donald J.
Low-Energy Atomic Collisions. I. The Schrödinger Equation for $H^+$–H (T)—Donald J. Kouri and C. F. Curtiss. 44, 2120 (1966)

KOUTECKÝ, Jaroslav
Contribution to the Theory of Alternant Systems (T)—Jaroslav Koutecký. 44, 3702 (1966)

KOYANO, Inosuke
Ion–Molecule Reactions by a Photoionization Mass Spectrometer. I. Propylene and 1,3-Butadiene (E)—I. Koyano, I. Omura, and I. Tanaka. 44, 3850 (1966)

KRAKOW, B.
Infrared Spectrum of Sulfur Trioxide (E/T)—B. Krakow and R. C. Lord. 44, 3640(L) (1966)

KRAMER, K. H.
Sudden Approximation Applied to Rotational Excitation of Molecules by Atoms. II. Scattering of Polar Diatomics (T)—R. B. Bernstein and K. H. Kramer. 44, 4473 (1966)

KRAUSS, Morris
Some Aspects of the Coulomb Hole of the Ground State of $H_3^+$ (T)—William A. Lester, Jr., and Morris Krauss. 44, 207 (1966)

KRISHER, Lawrence C.
Microwave Spectrum of Silver Chloride (E)—Lawrence C. Krisher and Wilfred G. Norris. 44, 391 (1966)
Microwave Spectrum of Silver Bromide (E)—Lawrence C. Krisher and Wilfred G. Norris. 44, 974 (1966)
Microwave Spectra of Alkali Hydroxides: Evidence for Linearity of CsOH and KOH (E/T)—R. L. Kuczkowski, D. R. Lide, Jr., and L. C. Krisher. 44, 3131(L) (1966)

KRISHNAJI
Solid Rotator Phase in Polar Liquids (T/E)—Krishnaji and Abhai Mansingh. 44, 1590 (1966)

KROTO, H. W.
Singlet and Triplet States of NCN in the Flash Photolysis of Cyanogen Azide (E)—H. W. Kroto. 44, 831(L) (1966)

KRYDER, S. J.
Debye Relaxation in Symmetric-Top–Foreign-Gas Mixtures; Temperature Dependence of Collision Cross Sections (E)—L. Frenkel, S. J. Kryder, and A. A. Maryott. 44, 2610 (1966)

KUCHITSU, Kozo
Calculation of the Average Structure of Ethylene (T)—Kozo Kuchitsu. 44, 906 (1966)

KUCZKOWSKI, Robert L.
Microwave Spectra of Alkali Hydroxides: Evidence for Linearity of CsOH and KOH (E/T)—R. L. Kuczkowski, D. R. Lide, Jr., and L. C. Krisher. 44, 3131(L) (1966)

KUEBLER, N. A.
Assignment of the Ultraviolet Mystery Band of Olefins (E/T)—M. B. Robin, R. R. Hart, and N. A. Kuebler. 44, 1803 (1966)
Low-Lying Pi-Sigma Transition in the Spectrum of Norbornadiene (E)—M. B. Robin and N. A. Kuebler. 44, 2664 (1966)

KUNTZ, P. J.
Energy Distribution Among Products of Exothermic Reactions. II. Repulsive, Mixed, and Attractive Energy Release (T)—P. J. Kuntz, E. M. Nemeth, J. C. Polanyi, S. D. Rosner, and C. E. Young. 44, 1168 (1966)

KUPPERMANN, Aron
Energy Threshold for $D + H_2 \rightarrow DH + H$ Reaction (E)—Aron Kuppermann and John M. White. 44, 4352(L) (1966)

KURATA, Michio
Hydrodynamic Properties of Flexible-Ring Macromolecules (T)—Masaaki Fukatsu and Michio Kurata. 44, 4539 (1966)

KURITA, Yukio
Electron Spin Resonance Study of Radical Pairs Trapped in X-Irradiated Single Crystals of Dimethylglyoxime-O,O-$d_2$, Glyoxime, and Methylglyoxime at Liquid-Nitrogen Temperature (E)—Yukio Kurita and Michio Kashiwagi. 44, 1727 (1966)

KURT, Zenichiro
Magnetic Resonances in Microwave-Discharged Gases by Double-Tuning Cavity Resonator (E)—T. Hada, M. Kimura, S. Hattori, and Z. Kuri. 44, 4637(L) (1966)

KUSUMOTO, Hazime
Nuclear Magnetic Resonance Powder Patterns of the Second-Order Nuclear Quadrupole Interaction in Solids with Asymmetric Field Gradient (T/E)—K. Narita, J. Umeda, and H. Kusumoto. 44, 2719 (1966)

KUWATA, Keiji
Electron Spin Resonance of a $\gamma$-Irradiated Single Crystal of a Hydrogen Peroxide–Urea Addition Compound at 77°K (E)—T. Ichikawa, M. Iwasaki, and K. Kuwata. 44, 2979 (1966)

KUYATT, C. E.
Resonances in the Elastic and Inelastic Electron Scattering from $N_2$ (E)—H. G. M. Heideman, C. E. Kuyatt, and G. E. Chamberlain. 44, 355 (1966)
Resonances in Electron Scattering from $H_2$, HD, and $D_2$ (E)—C. E. Kuyatt, J. A. Simpson, and S. R. Mielczarek. 44, 437 (1966)
Inelastic Electron Scattering from $H_2$ (E)—H. G. M. Heideman, C. E. Kuyatt, and G. E. Chamberlain. 44, 440 (1966)
Absorption Spectrum of $SF_6$ in the Far Ultraviolet by Electron Impact (E)—J. A. Simpson, C. E. Kuyatt, and S. R. Mielczarek. 44, 4403 (1966)

LABES, M. M.
Diffusion in Organic Crystals. II. Lattice and Subgrain-Boundary Diffusion (E)—P. J. Reucroft, H. K. Kevorkian, and M. M. Labes. 44, 4416 (1966)

LADIK, J.
Theoretical Estimation of the Conductivity of Different Periodic DNA Models (T)—J. Ladik, G. Biczó, and G. Elek. 44, 483 (1966)

LAGEMANN, Robert T.
Thermal Relaxation Absorption of Sound in the Deuterated Methanes at 26°C (E)—J. C. Gravitt, C. N. Whetstone, and R. T. Lagemann. 44, 70 (1966)

LaGRAFF, J. E.
Mass-Spectrometer and uv Absorption Study of $CHF_3$ Decomposition behind Shock Waves (E)—A. P. Modica and J. E. LaGraff. 44, 3375 (1966)

LAHAJNAR, G.
Nuclear Spin–Lattice Relaxation in Ferroelectric Triglycine Sulfate (E)—R. Blinc, G. Lahajnar, M. Pintar, and I. Zupančič. 44, 1784 (1966)

LAMPE, F. W.
Pulsed-Mass-Spectrometric Study of the Bimolecular Formation of $N_3^+$ (E)—M. C. Cress, P. M. Becker, and F. W. Lampe. 44, 2212(L) (1966)
Ionic Reactions in Gaseous Monosilane (E)—G. G. Hess and F. W. Lampe. 44, 2257 (1966)

LANGHOFF, P. W.
Approximations to Hartree-Fock Perturbation Theory (T)—P. W. Langhoff, M. Karplus, and R. P. Hurst. 44, 505 (1966)

LAO, R. C. C.
Homonuclear Diatomic One-Electron Eigenfunctions as Basis Sets (T)—R. C. Shapiro, R. C. C. Lao, and J. R. Riter, Jr. 44, 846(L) (1966)
LA PAGLIA, S. R.
Theoretical Transition Probabilities (T)—S. R. La Paglia and Oktay Sinanoğlu. 44, 1888 (1966)
LARDON, M.
Line-Shape Analysis in EPR Spectra of Nb(IV) Complexes in Solutions and Glasses (E)—M. Lardon and Hs. H. Günthard. 44, 2010 (1966)
LARSEN, Sigurd Yves
On the Quantum-Mechanical Pair-Correlation Function of $^4$He Gas at Low Temperatures (T)—S. Y. Larsen, K. Witte, and J. E. Kilpatrick. 44, 213 (1966)
LASSETTRE, Edwin N.
Test of the Low-Energy Limit of the Born Approximation (T)—S. M. Silverman and E. N. Lassettre. 44, 2219(L) (1966)
Weak Transitions in Excitation of $N_2$ by Electron Impact and Comparison with Excitation by Absorption of Radiation (E)—Vincent D. Meyer and Edwin N. Lassettre. 44, 2535(L) (1966)
Momentum Eigenfunction for the Ground State of $H_2^+$ (T)—Frederic M. Glaser and Edwin N. Lassettre. 44, 3787 (1966)
Intensity Variation with Scattering Angle of Electronic Transitions in $H_2O$ Excited by Electron Impact (E)—Ausma Skerbele and Edwin N. Lassettre. 44, 4066 (1966)
Vibrational Intensities of the $A\,^1\Pi \leftarrow X\,^1\Sigma^+$ Transition in Carbon Monoxide (E)—Ausma Skerbele, Vincent D. Meyer, and Edwin N. Lassettre. 44, 4069 (1966)
Intensity Distribution in the Energy-Loss Spectrum of Ethylene (E)—Kevin J. Ross and Edwin N. Lassettre. 44, 4633 (1966)
LAULICHT, I.
Isotope Effects on Franck-Condon Factors. V. Electronic Transitions of Isotopic $O_2$, $N_2$, $C_2$, and $H_2$ Molecules (T)—M. Halmann and I. Laulicht. 44, 2398 (1966)
LAURIE, Victor W.
Microwave Spectrum of Germylacetylene (E)—E. C. Thomas and Victor W. Laurie. 44, 2602 (1966)
LaVILLA, Robert E.
*K*-Absorption Fine Structures of Sulfur in Gaseous $SF_6$ (E)—Robert E. LaVilla and Richard D. Deslattes. 44, 4399 (1966)
LAWSON, Craig
Physical-Cluster Theory for a Reactive Gas (T)—Craig Lawson and John S. Dahler. 44, 1456 (1966)
LAWSON, Katheryn E.
Electronic Absorption Spectra of $Mn^{2+}$, $Fe^{2+}$, and $Co^{2+}$ in Dihydrated Halide Crystals (E/T)—Katheryn E. Lawson. 44, 4159 (1966)
LAYDEN, G. K.
$Ba(B_{0.5}Ta_{0.5})O_3$ Ordered Perovskite-Type Compounds, Possible New Laser Host Materials (E)—F. S. Galasso, G. K. Layden, and D. E. Flinchbaugh. 44, 2703 (1966)
LAZDINS, D.
Spin Delocalization in the Allyl and Ethyl Radicals (T)—D. Lazdins and M. Karplus. 44, 1600 (1966)
LECCHINI, S. M. A.
Chemisorption Studies of Nitrogen on Polycrystalline Tungsten (E)—M. P. Hill, S. M. A. Lecchini, and B. A. Pethica. 44, 2170 (1966)
LEE, John
Oxygen and Nitric Oxide Quenching of Positronium in Liquids (E)—John Lee and G. J. Celitans. 44, 2506 (1966)
LEFEBVRE-BRION, H.
Calculation of Valence States of NO and $NO^+$ (T)—H. Lefebvre-Brion and C. M. Moser. 44, 2951 (1966)
LEHMANN, Gerhard
Optical and Paramagnetic Properties of Iron Centers in Quartz (E)—Gerhard Lehmann and Walter J. Moore. 44, 1741 (1966)
LEHMANN, Walter J.
Role of Interaction Constants in Force-Constant Calculations (T)—W. J. Lehmann, L. Beckmann, and L. Gutjahr. 44, 1654 (1966)
LEONARD, P. J.
Fifth Virial Coefficients (T)—J. A. Barker, P. J. Leonard, and A. Pompe. 44, 4206 (1966)
LE ROY, D. J.
Kinetics of the Reaction $D + H_2 = HD + H$ (E)—B. A. Ridley, W. R. Schulz, and D. J. Le Roy. 44, 3344 (1966)
LESTER, William A., Jr.
Some Aspects of the Coulomb Hole of the Ground State of $H_3^+$ (T)—William A. Lester, Jr., and Morris Krauss. 44, 207 (1966)
LETCHER, John H.
Theoretical Interpretation of $^{31}$P NMR Chemical Shifts. I (T)—John H. Letcher and John R. Van Wazer. 44, 815 (1966)
LEVIN, Ira W.
Infrared Spectrum and Normal-Coordinate Analysis of $SF_4$ (E/T)—Ira W. Levin and Charles V. Berney. 44, 2557 (1966)
Force Fields for Group IV Tetrafluorides and Group V Trifluorides (T/E)—Ira W. Levin and Stanley Abramowitz. 44, 2562 (1966)
Force Fields for Some Group VI Hexafluorides (T/E)—Stanley Abramowitz and Ira W. Levin. 44, 3353 (1966)
LEVINE, Howard B.
Second and Third Ordinary and Dielectric Virial Coefficients for Nonpolar Axial Molecules (T)—Howard B. Levine and Donald A. McQuarrie. 44, 3500 (1966)
LEVINE, R. D.
Kinetics of Unimolecular Breakdown. I. The Formal Solution (T)—G. G. Hall and R. D. Levine. 44, 1567 (1966)
Kinetics of Unimolecular Breakdown. II. Time-Dependent Theory (T)—R. D. Levine. 44, 2029 (1966)
Kinetics of Unimolecular Breakdown. IV. The Linear Chain (T)—R. D. Levine. 44, 2035 (1966)
Kinetics of Unimolecular Breakdown. V. Mass-Spectral Patterns (T)—R. D. Levine. 44, 2046 (1966)
Kinetics of Unimolecular Breakdown. VII. Statisticomechanical Aspects (T)—R. D. Levine. 44, 3597 (1966)
LEVY, Donald H.
Electron Resonance Studies of Free Radicals in the Gas Phase. Detection of ClO, BrO, and NS (E)—Alan Carrington and Donald H. Levy. 44, 1298(L) (1966)
Electron Spin Resonance Spectra of the Radical Anions of Several 1,3-Dienes (E/T)—Donald H. Levy and Rollie J. Myers. 44, 4177 (1966)
LEWIS, I. C.
Electron Spin Resonance of the Radical Ions of an Isomeric Alternant and Nonalterant Aromatic Hydrocarbon (E)—I. C. Lewis and L. S. Singer. 44, 2082 (1966)
LEWIS, W. Burton
Magnetic Resonance Studies on Copper (II) Complex Ions in Solution. I: Temperature Dependence of the $^{17}$O NMR and Copper (II) EPR Linewidths of $Cu(H_2O)_6^{2+}$ (E)—W. B. Lewis, M. Alei, Jr., and L. O. Morgan. 44, 2409 (1966)
LHOSTE, Jean-Marc
Electron Paramagnetic Resonance Studies of Photoselected Triplet Molecules. I. Phenoxazine (E)—J.-M. Lhoste, A. Haug, and M. Ptak. 44, 648 (1966)

Electron Paramagnetic Resonance Studies of Photoselected Triplet Molecules. II. Coronene and Phenanthrene (E)—J.-M. Lhoste, A. Haug, and M. Ptak. 44, 654 (1966)

LIAS, Sharon G.

$H_2S$ as a Free Radical Interceptor in the Gas-Phase Radiolysis and Photolysis of Propane (E)—P. Ausloos and Sharon G. Lias. 44, 521 (1966)

LIBBY, D. R.

Shock-Tube Determination of the $C_2(A\,^3\Pi \rightarrow X\,^3\Pi)$ and $CF(A\,^2\Sigma^+ \rightarrow X\,^2\Pi)$ Band System Oscillator Strengths (E)—J. A. Harrington, A. P. Modica, and D. R. Libby. 44, 3380 (1966)

LIBERMAN, David A.

Another Relation Between Thermodynamic Functions Near the Critical Point of a Simple Fluid (T)—David A. Liberman. 44, 419(L) (1966)

LIDDIARD, T. P., Jr.

Hugoniot Equations of State of Several Unreacted Explosives (E)—N. L. Coleburn and T. P. Liddiard, Jr. 44, 1929 (1966)

LIDE, David R., Jr.

Microwave Spectra of Alkali Hydroxides: Evidence for Linearity of CsOH and KOH (E/T)—R. L. Kuczkowski, D. R. Lide, Jr., and L. C. Krisher. 44, 3131(L) (1966)

LIGHT, John C.

Statistical Theory of Chemical Kinetics: Application to Neutral-Atom-Molecule Reactions (T)—P. Pechukas, J. C. Light, and C. Rankin. 44, 794 (1966)

On the Exponential Form of Time-Displacement Operators in Quantum Mechanics (T)—Philip Pechukas and John C. Light. 44, 3897 (1966)

LIN, Sheng Hsien

Some Properties of the Quintet-State Carbon Atom (T)—Sheng Hsien Lin. 44, 2810 (1966)

Rate of Interconversion of Electronic and Vibrational Energy (T)—Sheng Hsien Lin. 44, 3759 (1966)

Effect of Radiation Damping on Dispersion (T)—Sheng Hsien Lin and Richard Bersohn. 44, 3768 (1966)

LINDER, Bruno

Interaction Between Two Rotating Dipolar Systems and a Generalization to the Rotational Double-Temperature Potential (T)—Bruno Linder. 44, 265 (1966)

LINDQVIST, L.

Radiationless Transitions in Xanthene Dyes (E)—L. Lindqvist and G. W. Lundeen. 44, 1711(L) (1966)

LIPSICAS, M.

Nuclear Spin-Lattice Relaxation in Liquid Hydrogen (E)—M. Lipsicas and A. Hartland. 44, 2839 (1966)

LITOVITZ, T. A.

Vibrational Relaxation and Volume Viscosity in Carbon Tetrachloride (E)—T. A. Litovitz and C. M. Davis, Jr. 44, 840(L) (1966)

Viscoelastic Relaxation and Non-Arrhenius Behavior in Diols (E)—R. Kono, G. E. McDuffie, and T. A. Litovitz. 44, 965 (1966)

Two-State Model for the Free Volume of Vitreous $B_2O_3$ (T/E)—P. B. Macedo, W. Capps, and T. A. Litovitz. 44, 3357 (1966)

Ultrasonic Shear and Longitudinal Measurements in Aqueous Glycerol (E)—W. M. Slie, A. R. Donfor, Jr., and T. A. Litovitz. 44, 3712 (1966)

LITTLER, J. G. F.

Spectroscopic Basis of Carbonyl Photochemistry. I. The Role of Excited-State Geometry in the Photodecomposition of Formaldehyde (T)—E. W. Abrahamson, J. G. F. Littler, and Kim-Phan Vo. 44, 4082 (1966)

LIU, Bowen

Double-Perturbation Treatment of the Ground State of the Hydrogen Molecule (T)—B. Liu, W. D. Lyon, and W. Byers Brown. 44, 562 (1966)

LIUTI, G.

Photochemical Production of $C_3O_2$ from CO (T)—G. Liuti, S. Dondes, and P. Harteck. 44, 4051(L) (1966)

Isotopic Enrichment in the Photochemistry of CO with the 2062-Å Iodine Line (E/T)—G. Liuti, S. Dondes, and P. Harteck. 44, 4052(L) (1966)

LIVINGSTON, Ralph

Paramagnetic Resonance Study of Liquids during Photolysis: Hydrogen Peroxide and Alcohols (E)—Ralph Livingston and Henry Zeldes. 44, 1245 (1966)

LIVINGSTON, R. C.

Electrical Properties of Some Charge-Transfer Complexes under High Pressure (E)—T. N. Andersen, D. W. Wood, R. C. Livingston, and H. Eyring. 44, 1259 (1966)

LO, G. Y-S.

Vibrational Spectra of the $Cl_3^-$ Ion and Evidence for the Existence of $Cl_5^-$ (E)—J. C. Evans and G. Y-S. Lo. 44, 3638(L) (1966)

Vibrational Spectra of the ClBr–Cl Ion (E)—J. C. Evans and G. Y.-S. Lo. 44, 4356(L) (1966)

LOEHLIN, J. H.

Proton Resonance Study of Molecular Motion and Phase Behavior of Solid $H_2S$ and $H_2Se$ (E)—J. H. Loehlin, P. G. Mennitt, and J. S. Waugh. 44, 3912 (1966)

LOEWENTHAL, E.

Delayed Fluorescence of Biphenyl. I. Influence of Temperature and Concentration (E)—E. Loewenthal and A. Weinreb. 44, 2534(L) (1966)

LOGAN, R. M.

Simple Classical Model for the Scattering of Gas Atoms from a Solid Surface (T)—R. M. Logan and R. E. Stickney. 44, 195 (1966)

LOH, Eugene

Ultraviolet Absorption and Excitation Spectrum of Ruby and Sapphire (E)—Eugene Loh. 44, 1940 (1966)

LOMBARDI, John R.

Anisotropic Rotational Relaxation in Rigid Media by Polarized Photoselection (E/T)—John R. Lombardi and Geoffrey A. Dafforn. 44, 3882 (1966)

LOOK, D. C.

Nuclear Magnetic Dipole-Dipole Relaxation Along the Static and Rotating Magnetic Fields: Application to Gypsum (E/T)—D. C. Look and I. J. Lowe. 44, 2995 (1966)

Effect of Hindered Molecular Rotation between Unequal Potential Wells upon Nuclear Magnetic Resonance Spin-Lattice Relaxation Times and Second Moments (T)—D. C. Look and I. J. Lowe. 44, 3437 (1966)

Nuclear Magnetic Resonance Study of Molecular Motions in Solid Hydrogen Sulfide (E)—D. C. Look, I. J. Lowe, and J. A. Northby. 44, 3441 (1966)

LORD, R. C.

Infrared Spectrum of Sulfur Trioxide (E/T)—B. Krakow and R. C. Lord. 44, 3640(L) (1966)

LoSACCO, Frank J.

Study of the Low-Frequency $OH^-$ Motions of LiOH by Neutron Inelastic Scattering (E)—George J. Safford and Frank J. LoSacco. 44, 345 (1966)

LOUNSBURY, John B.

General Solution for One-Center Zero-Field-Splitting Integrals (T)—John B. Lounsbury and George W. Barry. 44, 4367 (1966)

LOWE, I. J.

Nuclear Magnetic Dipole-Dipole Relaxation Along the Static and Rotating Magnetic Fields: Application to Gypsum (E/T)—D. C. Look and I. J. Lowe. 44, 2995 (1966)

Effect of Hindered Molecular Rotation between Unequal Potential Wells upon Nuclear Magnetic Resonance Spin-Lattice Relaxation Times and Second Moments (T)—D. C. Look and I. J. Lowe. 44, 3437 (1966)

Nuclear Magnetic Resonance Study of Molecular Motions in Solid Hydrogen Sulfide (E)—D. C. Look, I. J. Lowe, and J. A. Northby. 44, 3441 (1966)

LOWE, John P.

Semiempirical Treatment of Hindered Rotation in Simple Hydrides and Halosubstituted Ethanelike Molecules (T)—John P. Lowe and Robert G. Parr. 44, 3001 (1966)

LUCARELLI, Maria G.

Salt Effects in the Reaction of Peroxydisulfate with Thiosulfate (E)—A. Indelli, V. Bartocci, F. Ferranti, and M. G. Lucarelli. 44, 2069 (1966)

LUNDEEN, G. W.

Radiationless Transitions in Xanthene Dyes (E)—L. Lindqvist and G. W. Lundeen. 44, 1711(L) (1966)

LUNSFORD, Jack H.

Electron Paramagnetic Resonance of Oxygen on ZnO and Ultraviolet-Irradiated MgO (E/T)—Jack H. Lunsford and John P. Jayne. 44, 1487 (1966)

Study of CO Radicals on Magnesium Oxide with Electron Paramagnetic Resonance Techniques (E/T)—Jack H. Lunsford and John P. Jayne. 44, 1492 (1966)

LUNTZ, Alan C.

Microwave Spectrum, Vibration-Rotation Interaction, and Potential Function for the Ring-Puckering Vibration of Trimethylene Sulfide (E)—D. O. Harris, H. W. Harrington, A. C. Luntz, and W. D. Gwinn. 44, 3467 (1966)

LUSEBRINK, T. R.

NMR Spectrum of 3-Chlorothietane, an Example of Complete NMR Spectral Analysis by Computer Techniques (E)—W. D. Keller, T. R. Lusebrink, and C. H. Sederholm. 44, 782 (1966)

LUSTIG, E.

NMR Subspectral Analysis Applied to Polyfluorobenzenes $C_6H_nF_{6-n}$. I. 1,2,3,5-Tetrafluorobenzene (T/E)—E. Lustig and P. Diehl. 44, 2974 (1966)

LUTZ, Robert W.

Vibrational Relaxation of Deuterium by a Quantitative Schlieren Method (E)—John H. Kiefer and Robert W. Lutz. 44, 658 (1966)

Vibrational Relaxation of Hydrogen (E)—John H. Kiefer and Robert W. Lutz. 44, 668 (1966)

LUZ, Z.

Electron Spin Resonance of Parabenzosemiquinone-$^{17}O$ (E)—B. L. Silver, Z. Luz, and C. Eden. 44, 4258 (1966)

Sign of the $^{17}O$ Hyperfine Coupling Constant in Fremy's Salt (E)—Z. Luz, B. L. Silver, and C. Eden. 44, 4421 (1966)

LYNCH, R. W.

Effect of High Pressure on the Lattice Parameters of Diamond, Graphite, and Hexagonal Boron Nitride (E)—R. W. Lynch and H. G. Drickamer. 44, 181 (1966)

LYNDS, L.

Infrared Spectrum of $\nu_6$ of $H^{11}BCl_2$ (E)—L. Lynds. 44, 1721(L) (1966)

LYON, H. B.

Surface Debye Temperatures of the (100), (111), and (110) Faces of Platinum (E/T)—H. B. Lyon and G. A. Somorjai. 44, 3707 (1966)

LYON, William D.

Double-Perturbation Treatment of the Ground State of the Hydrogen Molecule (T)—B. Liu, W. D. Lyon, and W. Byers Brown. 44, 562 (1966)

LYSIAK, R. J.

Nuclear Magnetic Resonance Studies of Pure and Samarium-Doped $CaF_2$ Crystals (E)—R. J. Lysiak and P. P. Mahendroo. 44, 4025 (1966)

MacCHESNEY, J. B.

Preparation and Low-Temperature Magnetic Properties of the Terbium Oxides (E)—J. B. MacChesney, H. J. Williams, R. C. Sherwood, and J. F. Potter. 44, 596 (1966)

MACDONALD, J. Ross

Theory of Work-Function Change on Adsorption of Polarizable Ions (T)—J. Ross Macdonald and C. A. Barlow, Jr. 44, 202 (1966)

MACEDO, P. B.

Two-State Model for the Free Volume of Vitreous $B_2O_3$ (T/E)—P. B. Macedo, W. Capps, and T. A. Litovitz. 44, 3357 (1966)

MACHIDA, Katsunosuke

Torsional Coordinates in Vibrational Anharmonicity; Application to Ethylene (T)—Katsunosuke Machida. 44, 4186 (1966)

MacKAY, C.

Reactions of Atomic Nitrogen in the Quadruplet and Doublet States (E)—J. Dubrin, C. MacKay, and R. Wolfgang. 44, 2208(L) (1966)

MACKOR, E. L.

Sign of $J_{HF}$ in $CHFCl_2$ (E/T)—E. L. Mackor and C. MacLean. 44, 64 (1966)

Erratum: Nuclear Relaxation Processes in Systems of Two Spins (E)—E. L. Mackor and C. MacLean. [42, 4254 (1965)] 44, 430 (1966)

Transverse Relaxation in Systems of Two Nonidentical Spins (T/E)—C. MacLean and E. L. Mackor. 44, 2708 (1966)

MacLEAN, C.

Sign of $J_{HF}$ in $CHFCl_2$ (E/T)—E. L. Mackor and C. MacLean. 44, 64 (1966)

Erratum: Nuclear Relaxation Processes in Systems of Two Spins (E)—E. L. Mackor and C. MacLean. [42, 4254 (1965)] 44, 430 (1966)

NMR Study of Electron Transfer Rates and Spin Densities in *p*-Xylene and *p*-Diethylbenzene Anions (E)—E. de Boer and C. MacLean. 44, 1334 (1966)

Transverse Relaxation in Systems of Two Nonidentical Spins (T/E)—C. MacLean and E. L. Mackor. 44, 2708 (1966)

MADEY, T. E.

Kinetics of Desorption of the $\beta$-Nitrogen States Chemisorbed on Tungsten (E)—T. E. Madey and John T. Yates, Jr. 44, 1675 (1966)

MAHAN, Bruce H.

Gaseous Thermal Electron Reactions: Attachment to $SF_6$ and $C_7F_{14}$ (E)—Bruce H. Mahan and Charles E. Young. 44, 2192 (1966)

MAHENDROO, P. P.

Nuclear Magnetic Resonance Studies of Pure and Samarium-Doped $CaF_2$ Crystals (E)—R. J. Lysiak and P. P. Mahendroo. 44, 4025 (1966)

MAJUMDAR, Dilip Kumar

On the Nature of Paired Vacancy in Molten Electrolytes (T)—Dilip Kumar Majumdar. 44, 3632 (1966)

MAK, T. C. W.

Polyhedral Clathrate Hydrates. XI. Structure of Tetramethylammonium Hydroxide Pentahydrate (E)—R. K. McMullan, T. C. W. Mak, and G. A. Jeffrey. 44, 2338 (1966)

MALASPINA, L.

Dissociation Energy of the Gaseous AlP Molecule (E/T)—G. De Maria, K. A. Gingerich, L. Malaspina, and V. Piacente. 44, 2531(L) (1966)

MALINAUSKAS, A. P.
Thermal Transpiration. Rotational Relaxation Numbers for Nitrogen and Carbon Dioxide (E)—A. P. Malinauskas. 44, 1196 (1966)

MALLARD, W. G.
Heat-Release Profiles in the High-Temperature Oxidation of Acetylene in Shock Waves (E)—W. C. Gardiner, Jr., W. G. Mallard, K. Morinaga, D. L. Ripley, and B. F. Walker. 44, 4653(L) (1966)

MALM, John G.
Heat Capacity and Other Thermodynamic Properties of $MoF_6$ between 4° and 350° K (E)—D. W. Osborne, F. Schreiner, J. G. Malm, H. Selig, and L. Rochester. 44, 2802 (1966)

MANGUM, B. W.
Spin-Lattice Relaxation in Some Rare-Earth Trichlorides (E)—B. W. Mangum and R. P. Hudson. 44, 704 (1966)

MANLEY, O. P.
Fluorescent Efficiency of Energetic Electrons in the 3914-Å Band (T)—S. Frankenthal, O. P. Manley, and Y. M. Treve. 44, 257 (1966)

MANN, D. E.
Infrared Spectra of HCl, DCl, HBr, and DBr in Solid Rare-Gas Matrices (E/T)—D. E. Mann, N. Acquista, and D. White. 44, 3453 (1966)

MANSINGH, Abhai
Solid Rotator Phase in Polar Liquids (T/E)—Krishnaji and Abhai Mansingh. 44, 1590 (1966)

MARCHETTI, Alfred
Photoelectric Emission from Aromatic-Hydrocarbon-Alkali-Metal Films (E)—Alfred Marchetti and David R. Kearns. 44, 1301(L) (1966)

MARECHAL, Yves
Vibronic Coupling in ESR Spectra of Triplet States in Molecules: Temperature Effects (T)—Yves Marechal. 44, 1908 (1966)

MAREZIO, M.
High-Pressure Synthesis and Crystal Structure of $\alpha$-$LiAlO_2$ (E)—M. Marezio and J. P. Remeika. 44, 3143(L) (1966)
Polymorphism of $LiMO_2$ Compounds and High-Pressure Single-Crystal Synthesis of $LiBO_2$ (E)—M. Marezio and J. P. Remeika. 44, 3348 (1966)

MARGOZZI, Angelo P.
On the Photolysis of Solid $HN_3$ (E)—Harold A. Papazian and Angelo P. Margozzi. 44, 843(L) (1966)

MARKS, S. B.
Kinetics of Rapid Reactions in Liquid Ammonia. The Ammonia–Amide Proton Exchange (E/T)—T. J. Swift, S. B. Marks, and W. G. Sayre. 44, 2797 (1966)

MARSHALL, James H.
ESR of the Perinaphthenyl Radical in a Liquid Crystal (E/T)—Sivert H. Glarum and James H. Marshall. 44, 2884 (1966)

MARYOTT, A. A.
Debye Relaxation in Symmetric-Top–Foreign-Gas Mixtures; Temperature Dependence of Collision Cross Sections (E)—L. Frenkel, S. J. Kryder, and A. A. Maryott. 44, 2610 (1966)

MASON, E. A.
Molecular Rainbows for the 12-6 Potential in the Airy Approximation (T)—E. A. Mason, R. J. Munn, and F. J. Smith. 44, 1967 (1966)
Low-Temperature Transport Properties of Gaseous $H_2$, $D_2$, and HD (T)—Dwain E. Diller and E. A. Mason. 44, 2604 (1966)
Nonadditivity of Intermolecular Forces: Effects on the Third Virial Coefficient (T)—A. E. Sherwood, Andrew G. De Rocco, and E. A. Mason. 44, 2984 (1966)
Thermal Diffusion in Almost Lorentzian Mixtures (T)—E. A. Mason and Francis J. Smith. 44, 3100 (1966)

MATHESON, A. J.
Role of Free Volume in the Pressure Dependence of the Viscosity of Liquids (T)—A. J. Matheson. 44, 695 (1966)

MATSEN, F. A.
Quantum-Mechanical Potential-Energy Curve for the Lowest $^1\Sigma_u^+$ State of $He_2$ (T)—D. R. Scott, E. M. Greenwalt, J. C. Browne, and F. A. Matsen. 44, 2981 (1966)

MATTHEWS, Dennis B.
Proton Tunneling in the Hydrogen-Evolution Reaction (T)—J. O'M. Bockris and Dennis B. Matthews. 44, 298 (1966)

MATZKANIN, G. A.
Temperature and Pressure Dependence of the Nuclear Quadrupole Resonance of $^{14}N$ in $(CH_2)_6N_4$ (E/T)—G. A. Matzkanin, T. N. O'Neal, T. A. Scott, and P. J. Haigh. 44, 4171 (1966)

MAY, J. W.
Adsorption of Carbon Monoxide on a Tungsten (110) Surface (E)—J. W. May and L. H. Germer. 44, 2895 (1966)

MAYCOCK, J. N.
Erratum: Polarization Effects in the Ionic Conductivity of Alkali Halide Crystals. II. Current-Time Dependence (E)—A. R. Allnatt, P. W. M. Jacobs, and J. N. Maycock. [43, 2526 (1965)] 44, 3645 (1966)

McALPINE, Robert D.
On the Nonconfirmation of the Dual Emission Properties of Biphenylene (E)—Robin M. Hochstrasser and Robert D. McAlpine. 44, 3325 (1966)

McCARTHY, Shaun L.
Radial Distribution Function of Hard Spheres (T)—F. H. Ree, R. N. Keeler, and S. L. McCarthy. 44, 3407 (1966)

McCARTIN, P. J.
Radiationless Deactivation of the Fluorescent State of Substituted Anthracenes (E)—R. G. Bennett and P. J. McCartin. 44, 1969 (1966)

McCARVILLE, Michael E.
MCD of Simple and Catacondensed Aromatics (E)—John G. Foss and Michael E. McCarville. 44, 4350(L) (1966)

McCLAIN, W. M.
Polarization Studies on Recombination Luminescence in a Rigid Organic Solution (E)—W. M. McClain and A. C. Albrecht. 44, 1594 (1966)

McCONNELL, H. M.
Pressure-Induced Phase Transition in Wurster's Blue Perchlorate (E)—R. C. Hughes, A. W. Merkl, and H. M. McConnell. 44, 1720(L) (1966)

McDOWELL, C. A.
Mass-Spectrometric Studies of the Rare Gases Using an Electron Velocity Selector (E)—C. E. Brion, D. C. Frost, and C. A. McDowell. 44, 1034 (1966)

McDUFFIE, G. E.
Viscoelastic Relaxation and Non-Arrhenius Behavior in Diols (E)—R. Kono, G. E. McDuffie, and T. A. Litovitz. 44, 965 (1966)

McGLYNN, S. P.
Energy of Excimer Luminescence. V. Excimer Fluorescence of Naphthalene and Methylnaphthalenes (T/E)—F. J. Smith, A. T. Armstrong, and S. P. McGlynn. 44, 442 (1966)
Semiempirical Molecular Orbital Calculations. I. The Electronic Structure of $H_2O$ and $H_2S$ (T)—D. G. Carroll, A. T. Armstrong, and S. P. McGlynn. 44, 1865 (1966)
Delayed Luminescence of Organic Mixed Crystals (E)—T. N. Misra and S. P. McGlynn. 44, 3816 (1966)

McINTYRE, D.
Critical Scattering of the Perfluoroheptane–Iso-octane System (E)—G. W. Brady, D. McIntyre, M. E. Myers, Jr., and A. M. Wims. 44, 2197(L) (1966)

McKELVEY, J. M.
Erratum: Influence of Hydrostatic Pressure upon Hydroxy and Methoxy Isomers of Substituted Anthracenes and Naphthacene (E)—J. M. McKelvey and A. D. King, Jr. [43, 3178 (1965)] 44, 2542 (1966)

McKINNEY, Ted M.
Observation of Conformational Isomers of the Tetraisopropylnitrobenzene Anion Radical by Electron Spin Resonance Spectroscopy (E)—Ted M. McKinney and David H. Geske. 44, 2277 (1966)

McKOWN, Gary L.
Zeeman Studies of the $^{63}Cu$ Nuclear Quadrupole Resonance in Potassium Dicyanocuprate (I) (E)—Gary L. McKown and Jack D. Graybeal. 44, 610 (1966)

McLAUGHLIN, Ian L.
Transport Properties of Polyatomic Fluids. III. The Transport-Relaxation Equations for a Dilute Gas of Rough Spheres (T)—Ian L. McLaughlin and John S. Dahler. 44, 4453 (1966)

McLAUGHLIN, R.
Formation and Characterization of Divalent Americium in $CaF_2$ Crystals (E)—N. Edelstein, W. Easley, and R. McLaughlin, 44, 3130(L) (1966)

McLONE, R. R.
Long-Range Retarded Potentials between Molecules (T)—L. Gomberoff, R. R. McLone, and E. A. Power. 44, 4148 (1966)

McMILLAN, W. G.
Comment on the Collective-Coordinate Treatment of Electrolytes (T)—K. B. Eisenthal and W. G. McMillan. 44, 2542(L) (1966)

McMULLAN, R. K.
Polyhedral Clathrate Hydrates. XI. Structure of Tetramethylammonium Hydroxide Pentahydrate (E)—R. K. McMullan, T. C. W. Mak, and G. A. Jeffrey. 44, 2338 (1966)

McQUARRIE, Donald A.
Intermolecular Obstruction in Rubber Elasticity Theory (T)—J. L. Jackson, M. C. Shen, and D. A. McQuarrie. 44, 2388 (1966)
High-Temperature Equation of State (T)—D. A. McQuarrie and J. L. Katz. 44, 2393 (1966)
Second and Third Ordinary and Dielectric Virial Coefficients for Nonpolar Axial Molecules (T)—Howard B. Levine and Donald A. McQuarrie. 44, 3500 (1966)
On the Melting of Copolymeric DNA (T)—H. Reiss, D. A. McQuarrie, J. P. McTague, and E. R. Cohen. 44, 4567 (1966)

McTAGUE, John P.
Electric Polarization of Solutions of Rodlike Polyelectrolytes (T)—John P. McTague and Julian H. Gibbs. 44, 4295 (1966)
On the Melting of Copolymeric DNA (T)—H. Reiss, D. A. McQuarrie, J. P. McTague, and E. R. Cohen. 44, 4567 (1966)

McWEENY, R.
Self-Consistent Perturbation Theory. I. General Formulation and Some Applications (T)—G. Diercksen and R. McWeeny. 44, 3554 (1966)

McWHAN, D. B.
Effect of Pressure on the Curie Temperature and Volume of GdN (E)—D. B. McWhan. 44, 3528 (1966)

MEATH, William J.
Relativistic Intermolecular Forces, Moderately Long Range (T)—William J. Meath and Joseph O. Hirschfelder. 44, 3197 (1966)
Long-Range (Retarded) Intermolecular Forces (T)—William J. Meath and Joseph O. Hirschfelder. 44, 3210 (1966)

MEIBOOM, S.
NMR of Tetrahedral Molecules in a Nematic Solvent (E)—L. C. Snyder and S. Meiboom. 44, 4057(L) (1966)

MELE, A.
Main-Chain Scission and ESR Spectra of Irradiated Polytetrafluoroethylene Oxide (E)—P. Barnaba, D. Cordischi, A. Delle Site, and A. Mele. 44, 3672 (1966)

MENNITT, P. G.
Proton Resonance Study of Molecular Motion and Phase Behavior of Solid $H_2S$ and $H_2Se$ (E)—J. H. Loehlin, P. G. Mennitt, and J. S. Waugh. 44, 3912 (1966)

MERCER, E. E.
Vibrational Spectrum of Hydrazine-$d_4$ and a Raman Study of Hydrogen Bonding in Hydrazine (E)—J. R. Durig, S. F. Bush, and E. E. Mercer. 44, 4238 (1966)

MERKL, A. W.
Pressure-Induced Phase Transition in Wurster's Blue Perchlorate (E)—R. C. Hughes, A. W. Merkl, and H. M. McConnell. 44, 1720(L) (1966)

MERRIFIELD, R. E.
Exciton Analog of the Peierls Instability of One-Dimensional Metals (T)—R. E. Merrifield. 44, 4005 (1966)

MERRIGAN, Joseph A.
Reactions of Bromine Activated by Bromine-82m Isomeric Transition and Radiative Neutron Capture in Liquid and Solid Carbon Tetrachloride and *n*-Hexane (E)—J. A. Merrigan, W. K. Ellgren, Jr., and E. P. Rack. 44, 174 (1966)

MERRYMAN, Roy G.
Erratum: Thermal Expansion of a Uranium Monocarbide-Zirconium Monocarbide Solid Solution (E)—Charles P. Kempter and Roy G. Merryman. [43, 1736 (1965)] 44, 3645 (1966)

METZGER, P. H.
Absorption, Photoionization, and Fluorescence of $CO_2$ (E)—G. R. Cook, P. H. Metzger, and M. Ogawa. 44, 2935 (1966)

MEYER, L.
Argon-Oxygen Phase Diagram (E)—C. S. Barrett, L. Meyer, and J. Wasserman. 44, 998 (1966)

MEYER, Vincent D.
Weak Transitions in Excitation of $N_2$ by Electron Impact and Comparison with Excitation by Absorption of Radiation (E)—Vincent D. Meyer and Edwin N. Lassettre. 44, 2535(L) (1966)
Vibrational Intensities of the $A\,^1\Pi \leftarrow X\,^1\Sigma^+$ Transition in Carbon Monoxide (E)—Ausma Skerbele, Vincent D. Meyer, and Edwin N. Lassettre. 44, 4069 (1966)

MICHELS, H. H.
Molecular Orbital Studies of the Ground and Low-Lying Excited States of the $HeH^+$ Molecular Ion (T)—H. H. Michels. 44, 3834 (1966)

MIELCZAREK, S. R.
Resonances in Electron Scattering from $H_2$, HD, and $D_2$ (E)—C. E. Kuyatt, J. A. Simpson, and S. R. Mielczarek. 44, 437 (1966)
Absorption Spectrum of $SF_6$ in the Far Ultraviolet by Electron Impact (E)—J. A. Simpson, C. E. Kuyatt, and S. R. Mielczarek. 44, 4403 (1966)

MILLER, Terry A.
Quantitative Observation of Slow and Fast Exchange in EPR Spectra of Organic Free Radicals (E)—T. A. Miller, R. N. Adams, and P. M. Richards. 44, 4022 (1966)

MILLER, William H.
On the Variation-Perturbation Method for Excited States (T)—William H. Miller. 44, 2198(L) (1966)

MILLETT, Francis
Temperature Dependence of ESR Linewidths of Some Nitrobenzene Anion Radicals (E)—Francis Millett and John E. Harriman. 44, 1945 (1966)

MILLIGAN, Dolphus E.
Matrix-Isolation Study of the Infrared and Ultraviolet Spectra of the Free Radical CNN (E)—Dolphus E. Milligan and Marilyn E. Jacox. 44, 2850 (1966)
Infrared Spectrum of the Free Radical $CF_3$ Isolated in Inert Matrices (E)—D. E. Milligan, M. E. Jacox, and J. J. Comeford. 44, 4058(L) (1966)

MILNE, Thomas A.
Mass-Spectrometric Studies of Reactions in Flames. II. Quantitative Sampling of Free Radicals from One-Atmosphere Flames (E)—Thomas A. Milne and Frank T. Greene. 44, 2444 (1966)

MINGARDI, Maurizio
Phosphotescence of $K_3Co(CN)_6$ (E)—Maurizio Mingardi and Gerald B. Porter. 44, 4354(L) (1966)

MINTURN, Robert E.
Alkali-Atom-Halogen-Molecule Reactions in Molecular Beams; The Spectator Stripping Model (E/T)—R. E. Minturn, S. Datz, and R. L. Becker. 44, 1149 (1966)

MISETICH, Antonio A.
Electron Spin Resonance Studies of Chromium Nitrosyl Complexes (E/T)—J. Danon, H. Panepucci, and A. A. Misetich. 44, 4154 (1966)

MISRA, T. N.
Delayed Luminescence of Organic Mixed Crystals (E)—T. N. Misra and S. P. McGlynn. 44, 3816 (1966)

MOAZED, K. L.
Effect of Beam Temperature on the Heterogeneous Nucleation of Zinc from the Vapor (E)—V. Ruth, K. L. Moazed, and J. P. Hirth. 44, 2093 (1966)

MOBLEY, R. M.
Muonium Chemistry (E)—R. M. Mobley, J. M. Bailey, W. E. Cleland, V. W. Hughes, and J. E. Rothberg. 44, 4354(L) (1966)

MOCH, P.
Infrared Lattice-Vibration Spectra in $NiF_2$, $CoF_2$, and $FeF_2$ (E)—M. Balkanski, P. Moch, and G. Parisot. 44, 940 (1966)

MODICA, A. P.
Kinetics and Equilibria of the Difluorocarbene Radical Decomposition Behind Shock Waves (E)—A. P. Modica. 44, 1585 (1966)
Mass-Spectrometer and uv Absorption Study of $CHF_3$ Decomposition behind Shock Waves (E)—A. P. Modica and J. E. LaGraff. 44, 3375 (1966)
Shock-Tube Determination of the $C_2(A\,^3\Pi \rightarrow X\,^3\Pi)$ and $CF(A\,^2\Sigma^+ \rightarrow X\,^2\Pi)$ Band System Oscillator Strengths (E)—J. A. Harrington, A. P. Modica, and D. R. Libby. 44, 3380 (1966)

MOELLER, C. E.
Hypersonic Velocity Measurements in Liquid Dichloromethane (E)—N. A. Clark, C. E. Moeller, J. A. Bucaro, and E. F. Carome. 44, 2528(L) (1966)

MOLL, Norman G.
Reactions of Carbon Atoms with $N_2$, $H_2$, and $D_2$ at 4.2°K (E)—Norman G. Moll and Warren E. Thompson. 44, 2684 (1966)

MOORE, C. Bradley
Infrared Spectrum and Vibrational Potential Function of Hydrazoic Acid (E/T)—C. Bradley Moore and Kjell Rosengren. 44, 4108 (1966)

MOORE, Walter J.
Optical and Paramagnetic Properties of Iron Centers in Quartz (E)—Gerhard Lehmann and Walter J. Moore. 44, 1741 (1966)

MOPSIK, F. I.
Dielectric Relaxation in Liquid *n*-Octyl Iodide (E)—F. I. Mopsik and R. H. Cole. 44, 1015 (1966)

MORGAN, L. O.
Electron Spin Relaxation in Solvated Manganese (II) Ion Solutions (E/T)—B. B. Garrett and L. O. Morgan. 44, 890 (1966)
Electron Spin Resonance Linewidths of Manganese (II) Ions in Concentrated Aqueous Solutions (T/E)—C. C. Hinckley and L. O. Morgan. 44, 898 (1966)
Magnetic Resonance Studies on Copper (II) Complex Ions in Solution. I: Temperature Dependence of the $^{17}O$ NMR and Copper (II) EPR Linewidths of $Cu(H_2O)_6^{2+}$ (E)—W. B. Lewis, M. Alei, Jr., and L. O. Morgan. 44, 2409 (1966)

MORINAGA, K.
Heat-Release Profiles in the High-Temperature Oxidation of Acetylene in Shock Waves (E)—W. C. Gardiner, Jr., W. G. Mallard, K. Morinaga, D. L. Ripley, and B. F. Walker. 44, 4653(L) (1966)

MORINO, Yonezo
Vibrational Dependence of the *l*-Type Doubling Constants of Linear XYZ Molecules (T)—Yonezo Morino and Toru Nakagawa. 44, 841(L) (1966)

MOROSIN, Bruno
Lattice Parameters Between 5° and 298°K and Crystal Structure at 5°K of Cobalt Chloride Dihydrate (E)—Bruno Morosin. 44, 252 (1966)

MOSELEY, Wm. D., Jr.
Concerning the Roots of a Polynomial which Contain a Perturbation Parameter (T)—Wm. D. Moseley, Jr. 44, 842(L) (1966)

MOSER, Carl
Electronic Ground State and Wavefunctions for Vanadium Monoxide (T)—K. Douglas Carlson and Carl Moser. 44, 3259 (1966)

MOSER, C. M.
Calculation of Valence States of NO and $NO^+$ (T)—H. Lefebvre-Brion and C. M. Moser. 44, 2951 (1966)

MOSHER, R. L.
Fast Ion-Molecule Reaction in $CO_2$ (E)—J. F. Paulson, R. L. Mosher, and F. Dale. 44, 3025 (1966)

MOULTON, M. C.
Chemiluminescence in Molecular Beams. Electronic Excitation of Alkali Atoms in Exchange Reactions of Vibrationally Excited Alkali Halides (E)—M. C. Moulton and D. R. Herschbach. 44, 3010 (1966)

MOUNTAIN, Raymond D.
Interpretation of Brillouin Spectra (T)—Raymond D. Mountain. 44, 832(L) (1966)
Shear Relaxation Times of Simple Fluids (T)—Raymond D. Mountain and Robert Zwanzig. 44, 2777 (1966)

MOUSTAFA, H. R.
Absolute Gross Ionization Cross Sections for Electrons (0.6-12 keV) in Hydrocarbons (E)—B. L. Schram, M. J. van der Wiel, F. J. de Heer, and H. R. Moustafa. 44, 49 (1966)
Gross- and Partial-Ionization Cross Sections for Electrons on Water Vapor in the Energy Range 0.1-20 keV (E)—J. Schutten, F. J. de Heer, H. R. Moustafa, A. J. H. Boerboom, and J. Kistemaker. 44, 3924 (1966)

MULAC, W. A.
Some Aspects of the Photochemistry of Benzene (E)—W. A. Noyes, Jr., W. A. Mulac, and D. A. Harter. 44, 2100 (1966)
MÜLLER, K.
Dielectric Relaxation in the Electric Double Layer (T/E)—J. O'M. Bockris, E. Gileadi, and K. Müller. 44, 1445 (1966)
MÜLLER, Rudolf
Spectroscopic Study of the Reduction of Nickel and Cobalt Ions in Sapphire (E)—Rudolf Müller and Hs. H. Günthard. 44, 365 (1966)
MUNN, R. J.
Molecular Rainbows for the 12-6 Potential in the Airy Approximation (T)—E. A. Mason, R. J. Munn, and F. J. Smith. 44, 1967 (1966)
MURAD, Edmond
Mass-Spectrometric Determination of the Dissociation Energy of Beryllium Monofluoride (E)—Donald L. Hildenbrand and Edmond Murad. 44, 1524 (1966)
MUSHER, Jeremy I.
Energy of Interaction between Two Molecules (T)—Jeremy I. Musher and Lionel Salem. 44, 2943 (1966)
MYERS, G. H.
Quenching of $NO_2$ Fluorescence (E)—G. H. Myers, D. M. Silver, and F. Kaufman. 44, 718 (1966)
MYERS, M. E., Jr.
Critical Scattering of the Perfluoroheptane–Iso-octane System (E)—G. W. Brady, D. McIntyre, M. E. Myers, Jr., and A. M. Wims. 44, 2197(L) (1966)
MYERS, Rollie J.
Electron Spin Resonance Spectra of the Radical Anions of Several 1,3-Dienes (E/T)—Donald H. Levy and Rollie J. Myers. 44, 4177 (1966)
MYERS, W.
Neutron Scattering in Stretch-Oriented Polyethylene (E/T)—W. Myers, G. C. Summerfield, and J. S. King. 44, 184 (1966)
NADEAU, Paul G.
Electron Spin Resonance Studies of γ-Irradiated Ferroelectric Methylammonium Alum Crystals (E)—Roger P. Kohin and Paul G. Nadeau. 44, 691 (1966)
NAGAI, Kazuo
Second and Fourth Moments of the Polyethylene Chain (T)—Kazuo Nagai. 44, 423(L) (1966)
NAKAGAWA, Toru
Vibrational Dependence of the *l*-Type Doubling Constants of Linear XYZ Molecules (T)—Yonezo Morino and Toru Nakagawa. 44, 841(L) (1966)
NARITA, Koziro
Nuclear Magnetic Resonance Powder Patterns of the Second-Order Nuclear Quadrupole Interaction in Solids with Asymmetric Field Gradient (T/E)—K. Narita, J. Umeda, and H. Kusumoto. 44, 2719 (1966)
NAUGLE, Donald G.
Excess Ultrasonic Attenuation and Intrinsic-Volume Viscosity in Liquid Argon (E)—Donald G. Naugle. 44, 741 (1966)
NEELY, W. C.
Triplet-Triplet Absorption in Anthraquinone (E)—W. C. Neely and H. H. Dearman. 44, 1302(L) (1966)
NEGITA, Hisao
Line Shape of $^{14}N$ Pure Quadrupole Resonance by the Zeeman Modulation (T)—Hisao Negita. 44, 1734 (1966)
NELANDER, Bengt
On the Interpretation of Ring Strain (T)—Bengt Nelander and Stig Sunner. 44, 2476 (1966)
NELSON, P. A.
Measurement of Densities and Estimation of Critical Properties of the Alkali Metals (E/T)—I. G. Dillon, P. A. Nelson, and B. S. Swanson. 44, 4229 (1966)
NELSON, R. L.
Use of $^{17}O$ in an ESR Study of Oxygen Chemisorption on Some Alkaline-Earth Oxides (E)—A. J. Tench and R. L. Nelson. 44, 1714(L) (1966)
NEMETH, E. M.
Energy Distribution Among Products of Exothermic Reactions. II. Repulsive, Mixed, and Attractive Energy Release (T)—P. J. Kuntz, E. M. Nemeth, J. C. Polanyi, S. D. Rosner, and C. E. Young. 44, 1168 (1966)
NESBET, R. K.
Electronic Structure of $C_2$ (T)—P. F. Fougere and R. K. Nesbet. 44, 285 (1966)
NETO, N.
Crystal Spectra in Polarized Light, Vibrational Assignment, and Force-Constant Calculations of Phenanthrene (E/T)—V. Schettino, N. Neto, and S. Califano. 44, 2724 (1966)
NEUBERT, Theodore J.
Influence of Temperature on the *F*-Center Absorption in Sodium Fluoride (E)—K. Amenu-Kpodo, T. J. Neubert, and W. Youngblade. 44, 1324 (1966)
NEWTON, Amos S.
Erratum: Metastable State of the Double-Charged Carbon Dioxide Ion (E)—Amos S. Newton and A. F. Sciamanna. [40, 718 (1964)] 44, 2830 (1966)
Metastable-Ion Peak Shapes in Dempster-Type Mass Spectrometers (T/E)—Amos S. Newton. 44, 4015 (1966)
Metastable Peaks in the Mass Spectra of $N_2O$ and $NO_2$ (E)—Amos S. Newton and A. F. Sciamanna. 44, 4327 (1966)
NICOL, Malcolm
Solvent Stark Effect and Spectral Shifts (T)—Mario E. Baur and Malcolm Nicol. 44, 3337 (1966)
NICOLIS, G.
Nonstationary Contributions to the Bulk Viscosity and Other Transport Coefficients (T)—G. Nicolis and G. Severne. 44, 1477 (1966)
NILES, F. E.
Hornbeck-Molnar Cross Sections for the $n = 3$ States of Helium (E)—M. P. Teter, F. E. Niles, and W. W. Robertson. 44, 3018 (1966)
NIXON, Eugene R.
Infrared Spectra of Crystalline and Matrix-Isolated Carbonyl Sulfide (E/T)—Frank D. Verderame and Eugene R. Nixon. 44, 43 (1966)
NOBLE, Paul N.
Confirmation of the Identification of Dioxygen Monofluoride (E)—Paul N. Noble and George C. Pimentel. 44, 3641(L) (1966)
NORNES, Sherman B.
Adsorption of Thermally Activated Nitrogen (E/T)—Sherman B. Nornes and E. E. Donaldson. 44, 2968 (1966)
NORRIS, Wilfrid G.
Microwave Spectrum of Silver Chloride (E)—Lawrence C. Krisher and Wilfred G. Norris. 44, 391 (1966)
Microwave Spectrum of Silver Bromide (E)—Lawrence C. Krisher and Wilfred G. Norris. 44, 974 (1966)
NORTHBY, J. A.
Nuclear Magnetic Resonance Study of Molecular Motions in Solid Hydrogen Sulfide (E)—D. C. Look, I. J. Lowe, and J. A. Northby. 44, 3441 (1966)
NOYES, W. Albert, Jr.
Some Aspects of the Photochemistry of Benzene (E)—W. A. Noyes, Jr., W. A. Mulac, and D. A. Harter. 44, 2100 (1966)

NYGAARD, Lise
Nuclear Quadrupole Effect on Rotational Levels of a Molecule with Two Nuclei Having Spins of $\frac{5}{2}$ (T)—John S. Rigden and Lise Nygaard. 44, 4603 (1966)
OBI, Kinichi
Mechanism of Propane Formation by Ethane Photolysis at 1470 Å (E)—Kinichi Obi and Ikuzo Tanaka. 44, 424(L) (1966)
OFFEN, H. W.
Fluorescence Spectra of Several Aromatic Crystals under High Pressures (E)—H. W. Offen. 44, 699 (1966)
Effects of High Pressures on the Phosphorescence of Naphthalene and Quinoline (E)—H. W. Offen and B. A. Baldwin. 44, 3642(L) (1966)
Spectral Shifts in the Absorption Spectra of EDA Complexes in Solution (E)—H. W. Offen and M. S. F. A. Abidi. 44, 4642(L) (1966)
OGAWA, M.
Absorption, Photoionization, and Fluorescence of $CO_2$ (E)—G. R. Cook, P. H. Metzger, and M. Ogawa. 44, 2935 (1966)
OGRYZLO, E. A.
Some Novel Energy-Pooling Processes Involving $O_2(^1\Delta_g)$ (E)—S. J. Arnold, N. Finlayson, and E. A. Ogryzlo. 44, 2529(L) (1966)
OHSE, Roland W.
High-Temperature Vapor-Pressure Studies of $UO_2$ by the Effusion Method and Its Thermodynamic Interpretation (E/T)—Roland W. Ohse. 44, 1375 (1966)
OKADA, K.
Crystal Structure by Neutron Diffraction and the Antiferroelectric Phase Transition in Copper Formate Tetrahydrate (E)—K. Okada, M. I. Kay, D. T. Cromer, and I. Almodovar. 44, 1648 (1966)
OLSZEWSKI, S.
Some New Applications of the FE Theory to the Spectra of Linear Unsaturated Compounds (T)—S. Olszewski. 44, 3297 (1966)
OMURA, Itiro
Ion–Molecule Reactions by a Photoionization Mass Spectrometer. I. Propylene and 1,3-Butadiene (E)—I. Koyano, I. Omura, and I. Tanaka. 44, 3850 (1966)
O'NEAL, T. N.
Temperature and Pressure Dependence of the Nuclear Quadrupole Resonance of $^{14}N$ in $(CH_2)_6N_4$ (E/T)—G. A. Matzkanin, T. N. O'Neal, T. A. Scott, and P. J. Haigh. 44, 4171 (1966)
OOSHIKA, Y.
EPR Study of the Dimerization of Wurster's Blue Perchlorate in Solution (E)—A. Kawamori, A. Honda, N. Joo, K. Suzuki, and Y. Ooshika. 44, 4363(L) (1966)
OPPENHEIM, I.
Quantum Statistical Mechanics of Isotope Effects. II. The Surface Tension and Internal Energy (T)—J. M. Deutch, J. L. Kinsey, and I. Oppenheim. 44, 2270 (1966)
Nuclear Spin Relaxation in Gases and Liquids. V. Liquid Hydrogen (T)—J. M. Deutch and I. Oppenheim. 44, 2843 (1966)
ORMONDE, Stephan
Electron Excitation of High $n$ States in Hydrogen (T)—Stephan Ormonde. 44, 4652(L) (1966)
OSBORNE, C. F.
Flow Birefringence of DNA Molecules (T)—C. F. Osborne. 44, 2735 (1966)
OSBORNE, Darrell W.
Heat Capacity and Other Thermodynamic Properties of $MoF_6$ between 4° and 350°K (E)—D. W. Osborne, F. Schreiner, J. G. Malm, H. Selig, and L. Rochester. 44, 2802 (1966)
OSHEN, Steven
Thermal Conductivity of Argon in the Dense Gaseous and Liquid Regions (E/T)—B. M. Rosenbaum, S. Oshen, and G. Thodos. 44, 2831 (1966)
OVEREND, John
General Quartic Force Field of HCN (T)—I. Suzuki, M. A. Pariseau, and John Overend. 44, 3561 (1966)
OVERTON, W. C., Jr.
Properties of the Quartic Anharmonic Contribution to the Specific Heat of a Face-Centered Cubic Lattice (T)—W. C. Overton, Jr. 44, 934 (1966)
OWENS, B. B.
Corresponding-States Melting Curve for the Alkali Halides at High Pressure (T)—B. B. Owens. 44, 3144(L) (1966)
Compressibilities of the Molten Alkali Nitrates and Silver Nitrate at High Pressure (E)—B. B. Owens. 44, 3918 (1966)
PACE, E. L.
Fundamental Frequency Assignment of Thionyl Fluoride ($SOF_2$) (E)—E. L. Pace and H. V. Samuelson. 44, 3682 (1966)
PACK, J. L.
Electron Attachment and Detachment. I. Pure $O_2$ at Low Energy (E/T)—J. L. Pack and A. V. Phelps. 44, 1370 (1966)
PALM, Ann
Valence Force Field of $CX_3YZ_2$ and the Vibrational Spectra of $CF_3NO_2$, $CCl_3NO_2$, and $CBr_2NO_2$ (T)—A. Castelli, A. Palm, and C. Alexander, Jr. 44, 1577 (1966)
PANEPUCCI, H.
Electron Spin Resonance Studies of Chromium Nitrosyl Complexes (E/T)—J. Danon, H. Panepucci, and A. A. Misetich. 44, 4154 (1966)
PAO, Yoh-Han
Generation of Sound Waves in Liquids Accompanying Two-Photon Absorption (E/T)—P. M. Rentzepis and Yoh-Han Pao. 44, 2931 (1966)
PAPAZIAN, Harold A.
On the Photolysis of Solid $HN_3$ (E)—Harold A. Papazian and Angelo P. Margozzi. 44, 843(L) (1966)
PARISEAU, M. A.
General Quartic Force Field of HCN (T)—I. Suzuki, M. A. Pariseau, and John Overend. 44, 3561 (1966)
PARISOT, G.
Infrared Lattice-Vibration Spectra in $NiF_2$, $CoF_2$, and $FeF_2$ (E)—M. Balkanski, P. Moch, and G. Parisot. 44, 940 (1966)
PARR, Albert C.
Field-Induced Quantum States at a Surface (E/T)—A. J. Jason, R. P. Burns, A. C. Parr, and M. G. Inghram. 44 4351(L) (1966)
PARR, Robert G.
Theory of the Origin of the Internal-Rotation Barrier in the Ethane Molecule. II (T)—Robert E. Wyatt and Robert G. Parr. 44, 1529 (1966)
Semiempirical Treatment of Hindered Rotation in Simple Hydrides and Halosubstituted Ethanelike Molecules (T)—John P. Lowe and Robert G. Parr. 44, 3001 (1966)
Energy Differences from the Integral Hellmann–Feynman Formula: Application to $HeH^+$ (T)—Edward F. Hayes and Robert G. Parr. 44, 4650(L) (1966)
PASTOR, A. C.
Steady-State Studies in the Conventional Verneuil Process—the Trajection (Melting) Zone (E/T)—R. C. Pastor, A. C. Pastor, H. Kimura, and K. Arita. 44, 4486 (1966)

PASTOR, R. C.
Steady-State Studies in the Conventional Verneuil Process—the Trajection (Melting) Zone (E/T)—R. C. Pastor, A. C. Pastor, H. Kimura, and K. Arita. 44, 4486 (1966)

PAUL, Edward G.
Interpretation of NMR Spectra. I. $A_2BX_x$ and $A_2BK_k$ Spectra (E)—R. C. Hirst, D. M. Grant, and E. G. Paul. 44, 4305 (1966)

PAULSON, J. F.
Fast Ion-Molecule Reaction in $CO_2$ (E)—J. F. Paulson, R. L. Mosher, and F. Dale. 44, 3025 (1966)

PEARSON, A. G.
Some Potential-Energy Surfaces on $H_3^+$ Computed with Generalized Gaussian Orbitals (T)—A. G. Pearson, R. D. Poshusta, and J. C. Browne. 44, 1815 (1966)

PECHT, Israel
On the Formation of the Molecular Hydrogen Peroxide in the Radiolysis of Aqueous Solutions (E)—M. Anbar, I. Pecht, and G. Stein. 44, 3635(L) (1966)

PECHUKAS, Philip
Statistical Theory of Chemical Kinetics: Application to Neutral-Atom-Molecule Reactions (T)—P. Pechukas, J. C. Light, and C. Rankin. 44, 794 (1966)
On the Exponential Form of Time-Displacement Operators in Quantum Mechanics (T)—Philip Pechukas and John C. Light. 44, 3897 (1966)

PEREC, M.
On the Assignment of the $B_1$ Modes of $HBF_2$ and $DBF_2$ (E)—M. Perec and L. N. Becka. 44, 3149(L) (1966)

PERSKY, Avigdor
Kinetic Isotope Effects in the Reaction between Atomic Chlorine and Molecular Hydrogen. Tunnel Coefficients of the Hydrogen Atom through an Asymmetric Potential Barrier (E/T)—Avigdor Persky and Fritz S. Klein. 44, 3617 (1966)

PERSON, Willis B.
Infrared Spectra of Charge-Transfer Complexes. VI. Theory (T)—H. Bruce Friedrich and Willis B. Person. 44, 2161 (1966)

PETERLIN, A.
Hydrodynamics of Linear Macromolecules. I. Finite Segment Length (T)—Chr. Reinhold and A. Peterlin. 44, 4333 (1966)

PETERSON, Steven H.
On the Structure of Gaseous $XeF_6$ (E)—K. Hedberg, S. H. Peterson, R. R. Ryan, and B. Weinstock. 44, 1726(L) (1966)

PETHICA, B. A.
Chemisorption Studies of Nitrogen on Polycrystalline Tungsten (E)—M. P. Hill, S. M. A. Lecchini, and B. A. Pethica. 44, 2170 (1966)

PETICOLAS, W. L.
Laser-Induced Luminescence and Dissociation in Biphenyl (E)—K. B. Eisenthal, W. L. Peticolas, and K. E. Rieckhoff. 44, 4492 (1966)

PFROGNER, R. L.
Optical Absorption and Energy Levels of Manganese in ZnS:Mn Crystals (E/T)—H. E. Gumlich, R. L. Pfrogner, J. C. Shaffer, and F. E. Williams. 44, 3929 (1966)

PHELPS, A. V.
Electron Attachment and Detachment. I. Pure $O_2$ at Low Energy (E/T)—J. L. Pack and A. V. Phelps. 44, 1870 (1966)

PHILLIPSON, Paul
Electronic Bases of Molecular Vibrations. II. Generalized Energy Theorems and the Force Constants of Polyatomic Molecules (T)—Paul Phillipson. 44, 633 (1966)
Electronic Bases of Molecular Vibrations. III. *Ab Initio* Calculations of $H_2^+$ and $H_2$ Force Constants (T)—William R. Ross and Paul Phillipson. 44, 844(L) (1966)

PIACENTE, V.
Dissociation Energy of the Gaseous AlP Molecule (E/T)—G. De Maria, K. A. Gingerich, L. Malaspina, and V. Piacente. 44, 2531(L) (1966)

PIGNATARO, S.
Decomposition Processes and Fragmentation Probabilities of $W(CO)_6$ by Electron Impact (E)—B. Cantone, F. Grasso, and S. Pignataro. 44, 3115 (1966)

PIMENTEL, George C.
Dioxygen Monofluoride: Infrared Spectrum, Vibrational Potential Function, and Bonding (E)—R. D. Spratley, J. J. Turner, and G. C. Pimentel. 44, 2063 (1966)
Infrared Spectrum, Structure, and Bonding of Lithium Nitroxide, LiON (E)—W. Lester S. Andrews and George C. Pimentel. 44, 2361 (1966)
Infrared Detection of Methyl Radical in Solid Argon (E)—W. Lester S. Andrews and George C. Pimentel. 44, 2527(L) (1966)
Hydrogen Bonding of Hydrazoic Acid in Solid Nitrogen (E)—G. C. Pimentel, S. W. Charles, and K. Rosengren. 44, 3029 (1966)
Confirmation of the Identification of Dioxygen Monofluoride (E)—Paul N. Noble and George C. Pimentel. 44, 3641(L) (1966)
Infrared Detection of Gaseous Trifluoromethyl Radical (E)—Gary A. Carlson and George C. Pimentel. 44, 4053(L) (1966)

PINGS, C. J.
Absorption of Sound Near the Critical Point of the Nitrobenzene–Iso-octane System (E)—A. V. Anantaraman, A. B. Walters, P. D. Edmonds, and C. J. Pings. 44, 2651 (1966)

PINTAR, M.
Nuclear Spin–Lattice Relaxation in Ferroelectric Triglycine Sulfate (E)—R. Blinc, G. Lahajnar, M. Pintar, and I. Zupančič. 44, 1784 (1966)

PISTORIUS, Carl W. F. T.
Polymorphism and Melting of Ammonium, Thallous, and Silver Nitrates to 45 kbar (E)—Eliezer Rapoport and Carl W. F. T. Pistorius. 44, 1514 (1966)
Phase Diagrams of Sodium Tungstate and Sodium Molybdate to 45 kbar (E)—Carl W. F. T. Pistorius. 44, 4532 (1966)

PITZER, Kenneth S.
Spin Statistics Isomerization in Methane (T/E)—R. F. Curl, Jr., J. V. V. Kasper, K. S. Pitzer, and K. Sathianandan. 44, 4636(L) (1966)

PLACZEK, D. W.
Intramolecular Energy Relaxation. Butyl Radical Decomposition at High Pressure (E)—D. W. Placzek, B. S. Rabinovitch, and F. H. Dorer. 44, 279 (1966)
Erratum: Some Comparisons of the Classical RRK and the RRKM Theoretical Rate Formulations (T)—D. W. Placzek, B. S. Rabinovitch, G. Z. Whitten, and E. Tschuikow-Roux. [43, 4071 (1965)] 44, 3646 (1966)

PLUMB, Robert C.
Theory of Formation of Very Thin Oxide Films on Metals (T/E)—Joseph E. Boggio and Robert C. Plumb. 44, 1081 (1966)

POINDEXTER, E. H.
Dynamic Polarization in Hexafluorobenzene Solutions (E)—E. H. Poindexter, J. R. Stewart, R. J. Runge, and D. D. Thompson. 44, 4059(L) (1966)

POLANYI, J. C.
Energy Distribution Among Products of Exothermic Reactions. II. Repulsive, Mixed, and Attractive Energy Release (T)—P. J. Kuntz, E. M. Nemeth, J. C. Polanyi, S. D. Rosner, and C. E. Young. 44, 1168 (1966)

POMPE, A.
Fifth Virial Coefficients (T)—J. A. Barker, P. J. Leonard, and A. Pompe. 44, 4206 (1966)
POPLE, J. A.
Approximate Self-Consistent Molecular Orbital Theory. III. CNDO Results for $AB_2$ and $AB_3$ Systems (T)—J. A. Pople and G. A. Segal. 44, 3289 (1966)
PORTER, Gerald B.
Phosphotescence of $K_3Co(CN)_6$ (E)—Maurizio Mingardi and Gerald B. Porter. 44, 4354(L) (1966)
POSHUSTA, R. D.
Some Potential-Energy Surfaces on $H_3^+$ Computed with Generalized Gaussian Orbitals (T)—A. G. Pearson, R. D. Poshusta, and J. C. Browne. 44, 1815 (1966)
POTTER, J. F.
Preparation and Low-Temperature Magnetic Properties of the Terbium Oxides (E)—J. B. MacChesney, H. J. Williams, R. C. Sherwood, and J. F. Potter. 44, 596 (1966)
POTTIE, R. F.
Cross Sections for Ionization by Electrons. I. Absolute Ionization Cross Sections of Zn, Cd, and $Te_2$. II. Comparison of Theoretical with Experimental Values for Atoms and Molecules (E/T)—R. F. Pottie. 44, 916 (1966)
POWER, E. A.
Long-Range Retarded Potentials between Molecules (T)—L. Gomberoff, R. R. McLone, and E. A. Power. 44, 4148 (1966)
PRAUSNITZ, J. M.
Infrared Study of Hydrogen Bonding between Polymers and Methanol: Polypropylene Oxide and Polypropylene Glycol (E)—J. F. Heil and J. M. Prausnitz. 44, 737 (1966)
PRESSLEY, George A., Jr.
Electron-Impact Ionization Cross Sections for Atoms (E)—J. L. Cooper, Jr., G. A. Pressley, Jr., and F. E. Stafford. 44, 3946 (1966)
PROCHOROW, J.
Charge-Transfer Complexes of Carbonyl Cyanide in Gas and Condensed Phases (E)—J. Prochorow and A. Tramer. 44, 4545 (1966)
PROVDER, Theodore
Internal-Field Correction for Discrete Relaxation Times (T)—Worth E. Vaughan and Theodore Provder. 44, 1306(L) (1966)
PTAK, Marius
Electron Paramagnetic Resonance Studies of Photoselected Triplet Molecules. I. Phenoxazine (E)—J.-M. Lhoste, A. Haug, and M. Ptak. 44, 648 (1966)
Electron Paramagnetic Resonance Studies of Photoselected Triplet Molecules. II. Coronene and Phenanthrene (E)—J.-M. Lhoste, A. Haug, and M. Ptak. 44, 654 (1966)
PUCKETT, Janice C.
Correlation of the C–H Stretching Force Constant with the Nuclear $^{13}C$–H Coupling Constant (E/T)—Theodore L. Brown and Janice C. Puckett. 44, 2238 (1966)
PYUN, Chong Wha
Perturbation Theory of the Intrinsic Viscosity of Polymer Chains (T)—Chong Wha Pyun and Marshall Fixman. 44, 2107 (1966)
QUADE, C. Richard
Internal Rotation in Completely Asymmetric Molecules. II. Interactions between Vibration and Internal Rotation (T)—C. Richard Quade. 44, 2512 (1966)
RABIDEAU, Sherman W.
Oxygen-17 NMR in Polycrystalline $H_2O$ and $D_2O$ Ice (E/T)—Sherman W. Rabideau and Peter Waldstein. 44, 1304(L) (1966)
RABINOVITCH, B. S.
Intramolecular Energy Relaxation. Butyl Radical Decomposition at High Pressure (E)—D. W. Placzek, B. S. Rabinovitch, and F. H. Dorer. 44, 279 (1966)
Erratum: Some Comparisons of the Classical RRK and the RRKM Theoretical Rate Formulations (T)—D. W. Placzek, B. S. Rabinovitch, G. Z. Whitten, and E. Tschuikow-Roux. [43, 4071 (1965)] 44, 3646 (1966)
RACK, Edward P.
Reactions of Bromine Activated by Bromine-82m Isomeric Transition and Radiative Neutron Capture in Liquid and Solid Carbon Tetrachloride and *n*-Hexane (E)—J. A. Merrigan, W. K. Ellgren, Jr., and E. P. Rack. 44, 174 (1966)
RAFF, L. M.
Classical Monte Carlo Analysis of Four-Body Reactions: $K+C_2H_5I$ System (T)—L. M. Raff. 44, 1202 (1966)
Theoretical Investigations of Reactive Collisions in Molecular Beams: $K+CH_3I$ and Related Systems (T)—L. M. Raff and M. Karplus. 44, 1212 (1966)
RAJNAK, K.
Energy Levels of $Pu^{3+}$ in Lanthanum Trichloride (T/E)—John G. Conway and K. Rajnak. 44, 348 (1966)
RANDIČ, Milan
*Ab Initio* Calculation of Harmonic Force Constants (T)—David M. Bishop and Milan Randič. 44, 2480 (1966)
RANKIN, Charles
Statistical Theory of Chemical Kinetics: Application to Neutral-Atom-Molecule Reactions (T)—P. Pechukas, J. C. Light, and C. Rankin. 44, 794 (1966)
RAPER, O. F.
Primary Processes in Ozone Photolysis (E)—W. B. DeMore and O. F. Raper. 44, 1780 (1966)
RAPOPORT, Eliezer
Polymorphism and Melting of Ammonium, Thallous, and Silver Nitrates to 45 kbar (E)—Eliezer Rapoport and Carl W. F. T. Pistorius. 44, 1514 (1966)
On Nachtrieb's $T_m/T$ Law for Diffusion in Solids under Pressure and Its Relation to Simon's Melting Equation (T)—Eliezer Rapoport. 44, 3581 (1966)
RASIEL, Yecheskel
Constrained-Variation Method in Molecular Quantum Mechanics. Comparison of Different Approaches (T)—D. P. Chong and Yecheskel Rasiel. 44, 1819 (1966)
RAST, H. E.
Infrared Absorption of $Ce^{3+}$ in $LaF_3$ and of $CeF_3$ (E)—R. A. Buchanan, H. E. Rast, and H. H. Caspers. 44, 4063 (1966)
RATH, N. S.
Variable Composition of the Chlorine and Ethylene Oxide Clathrate Hydrates (E)—D. N. Glew and N. S. Rath. 44, 1710(L) (1966)
RAUH, E. G.
Uranium Monosulfide. III. Thermochemistry, Partial Pressures, and Dissociation Energies of US and $US_2$ (E)—E. D. Cater, E. G. Rauh, and R. J. Thorn. 44, 3106 (1966)
RAYNES, W. T.
Rotational Analysis of Some Bands of the Triplet—Singlet Transition in Formaldehyde (E)—W. T. Raynes. 44, 2755 (1966)
REDINGTON, R. L.
Some Infrared Spectra of Matrix-Isolated Lithium Fluoride (E)—R. L. Redington. 44, 1238 (1966)
REE, Francis H.
Radial Distribution Function of Hard Spheres (T)—F. H. Ree, R. N. Keeler, and S. L. McCarthy. 44, 3407 (1966)

REE, Taikyue
Significant-Structure Theory Applied to Water and Heavy Water (T)—Mu Shik Jhon, J. Grosh, T. Ree, and H. Eyring. 44, 1465 (1966)
REESE, R. M.
Photoionization Mass Spectrometry of NO (E)—R. M. Reese and H. M. Rosenstock. 44, 2007 (1966)
REINHOLD, Chr.
Hydrodynamics of Linear Macromolecules. I. Finite Segment Length (T)—Chr. Reinhold and A. Peterlin. 44, 4333 (1966)
REISS, H.
On the Melting of Copolymeric DNA (T)—H. Reiss, D. A. McQuarrie, J. P. McTague, and E. R. Cohen. 44, 4567 (1966)
REMEIKA, J. P.
High-Pressure Synthesis and Crystal Structure of $\alpha$-$LiAlO_2$ (E)—M. Marezio and J. P. Remeika. 44, 3143(L) (1966)
Polymorphism of $LiMO_2$ Compounds and High-Pressure Single-Crystal Synthesis of $LiBO_2$ (E)—M. Marezio and J. P. Remeika. 44, 3348 (1966)
RENARD, Rémi
Order-Disorder Phenomena. I. Instability and Hysteresis in an Ising Model Near Its Critical Point (T)—Carl W. Garland and Rémi Renard. 44, 1120 (1966)
Order-Disorder Phenomena. II. Elastic Constants of a Two-Dimensional Ising Model (T)—Rémi Renard and Carl W. Garland. 44, 1125 (1966)
Order-Disorder Phenomena. III. Effect of Temperature and Pressure on the Elastic Constants of Ammonium Chloride (E)—Carl W. Garland and Rémi Renard. 44, 1130 (1966)
RENTZEPIS, P. M.
Generation of Sound Waves in Liquids Accompanying Two-Photon Absorption (E/T)—P. M. Rentzepis and Yoh-Han Pao. 44, 2931 (1966)
REUBEN, J.
Fluorine–Carbon-13 Spin-Spin Coupling Constants of Some Bromofluoroethylenes (E)—J. Reuben and A. Demiel. 44, 2216(L) (1966)
REUCROFT, P. J.
Diffusion in Organic Crystals. II. Lattice and Subgrain-Boundary Diffusion (E)—P. J. Reucroft, H. K. Kevorkian, and M. M. Labes. 44, 4416 (1966)
REYNOLDS, James Ward
Selection of Molecular Matrix Elements from Atomic Data. II (T)—L. C. Cusachs, J. W. Reynolds, and D. Barnard. 44, 835(L) (1966)
REYNOLDS, W. L.
EPR Spectra of 2,2′-Bipyride Ion (E/T)—J. dos Santos Veiga, W. L. Reynolds, and J. R. Bolton. 44, 2214(L) (1966)
Solvation Number and Solvent Exchange Rate of $Al(DMSO)_n^{3+}$ in DMSO (E)—S. Thomas and W. L. Reynolds. 44, 3148(L) (1966)
RICE, Stuart A.
Theoretical Studies of Transannular Interactions. I. Benzene Excimer Fluorescence and the Singlet States of the Paracyclophanes (T)—M. T. Vala, Jr., I. H. Hillier, S. A. Rice, and J. Jortner. 44, 23 (1966)
On the Kinetic Theory of Dense Fluids (T)—Norman Hurt and Stuart A. Rice. 44, 2155 (1966)
Conjecture on Resonant Transfer of Vibrational Energy and Radiationless Transitions in the Solid Phase: The Lifetime of Triplet Anthracene (T)—H. Y. Sun, J. Jortner, and S. A. Rice. 44, 2539(L) (1966)
Cooperative Exciton States in Molecular Crystals (T)—Joshua Jortner and Stuart A. Rice. 44, 3364 (1966)
Do Exciton States Exist in the Liquid Phase? (T)—Stuart A. Rice and Joshua Jortner. 44, 4470 (1966)
RICHARDS, Peter M.
Quantitative Observation of Slow and Fast Exchange in EPR Spectra of Organic Free Radicals (E)—T. A. Miller, R. N. Adams, and P. M. Richards. 44, 4022 (1966)
RICHARDSON, Paul E.
Detection of Radiation Damage in Anthracene Crystals by Space-Charge-Limited Current Measurements (E)—S. Z. Weisz, A. Cobas, P. E. Richardson, H. H. Szmant, and S. Trester. 44, 1364 (1966)
RICHTOL, H. H.
Luminescence and Energy Transfer in Some Aliphatic $\alpha$-Diketones (E)—H. H. Richtol and F. H. Klappmeier. 44, 1519 (1966)
RIDLEY, B. A.
Kinetics of the Reaction $D + H_2 = HD + H$ (E)—B. A. Ridley, W. R. Schulz, and D. J. Le Roy. 44, 3344 (1966)
RIEBLING, E. F.
Structure of Sodium Aluminosilicate Melts Containing at Least 50 mole % $SiO_2$ at 1500°C (E)—E. F. Riebling. 44, 2857 (1966)
RIEDEL, E. P.
Energy Transfer between *p*-Benzoylbenzoate and Europium Ethylenediaminetetraacetate in Water Solution (E)—R. G. Charles, E. P. Riedel, and P. G. Haverlack. 44, 1356 (1966)
RIGDEN, John S.
Nuclear Quadrupole Effect on Rotational Levels of a Molecule with Two Nuclei Having Spins of $\frac{5}{2}$ (T)—John S. Rigden and Lise Nygaard. 44, 4603 (1966)
RIECKHOFF, K. E.
Laser-Induced Luminescence and Dissociation in Biphenyl (E)—K. B. Eisenthal, W. L. Peticolas, and K. E. Rieckhoff. 44, 4492 (1966)
RING, J. W.
Dielectric and Viscous Behavior in the *i*-Amyl Bromide–2-Methylpentane System (E)—D. J. Denney and J. W. Ring. 44, 4621 (1966)
RIPLEY, Dennis L.
Shock-Tube Study of the Hydrogen–Oxygen Reaction. II. Role of Exchange Initiation (T/E)—Dennis L. Ripley and W. C. Gardiner, Jr. 44, 2285 (1966)
Heat-Release Profiles in the High-Temperature Oxidation of Acetylene in Shock Waves (E)—W. C. Gardiner, Jr., W. G. Mallard, K. Morinaga, D. L. Ripley, and B. F. Walker. 44, 4653(L) (1966)
RITER, J. R., Jr.
Fundamental Vibrations and Force Constants in the Partially Deuterated Methyl Halides (E/T)—J. R. Riter, Jr., and D. F. Eggers, Jr. 44, 745 (1966)
Homonuclear Diatomic One-Electron Eigenfunctions as Basis Sets (T)—R. C. Shapiro, R. C. C. Lao, and J. R. Riter, Jr. 44, 846(L) (1966)
ROBERTS, Peter J.
Four-Center Integrals for Slater 1s Orbitals (T)—Peter J. Roberts. 44, 1722(L) (1966)
One-Center Expansion of the Coulomb Potential in Terms of Slater-Type Orbitals (T)—P. J. Roberts. 44, 3145(L) (1966)
ROBERTSON, Richard E.
Theory for the Plasticity of Glassy Polymers (T)—Richard E. Robertson. 44, 3950 (1966)
ROBERTSON, W. W.
Application of the Franck-Condon Principle to Molecular Excitation by Collision with Excited Atoms and Molecules (E)—W. W. Robertson. 44, 2456 (1966)

Hornbeck-Molnar Cross Sections for the $n=3$ States of Helium (E)—M. P. Teter, F. E. Niles, and W. W. Robertson. 44, 3018 (1966)

ROBIETTE, A. G.
Third-Law Entropy of $C_3$ (T)—A. G. Robiette and H. L. Strauss. 44, 2826(L) (1966)

ROBIN, M. B.
Assignment of the Ultraviolet Mystery Band of Olefins (E/T)—M. B. Robin, R. R. Hart, and N. A. Kuebler. 44, 1803 (1966)
Low-Lying Pi-Sigma Transition in the Spectrum of Norbornadiene (E)—M. B. Robin and N. A. Kuebler. 44, 2664 (1966)

ROBINSON, D. W.
Far-Infrared Spectra of Matrix-Isolated Hydrogen Fluoride (E)—D. W. Robinson and W. G. Von Holle. 44, 410(L) (1966)

ROBINSON, G. W.
Infrared Spectra of HCl and DCl in Solid Rare Gases. I. Monomers (E/T)—L. F. Keyser and G. W. Robinson. 44, 3225 (1966)

ROCHESTER, Leon
Heat Capacity and Other Thermodynamic Properties of $MoF_6$ between 4° and 350°K (E)—D. W. Osborne, F. Schreiner, J. G. Malm, H. Selig, and L. Rochester. 44, 2802 (1966)

RODRIGUES, Edson
Piezoelectric Effects in Nuclear-Quadrupole Resonance (E)—E. Rodrigues and M. M. Rodrigues. 44, 2200(L) (1966)
Piezoelectricity in Hexamethylenetetramine (E)—Virgil E. Bottom and Edson Rodrigues. 44, 2201(L) (1966)

RODRIGUES, M. M.
Piezoelectric Effects in Nuclear-Quadrupole Resonance (E)—E. Rodrigues and M. M. Rodrigues. 44, 2200(L) (1966)

ROE, Ryong-Joon
Conformation of an Isolated Polymer Molecule at an Interface. III. Distributions of Segment Densities near the Interface and of Other Shape Parameters (T)—Ryong-Joon Roe. 44, 4264 (1966)

ROEBBER, John L.
Vacuum-Ultraviolet Absorption Spectrum of Carbon Suboxide (E)—Hongsuk H. Kim and John L. Roebber. 44, 1709(L) (1966)

RON, Arza
Electronic Spectrum of (2, 2)Paracyclophane. II (E)—Arza Ron and O. Schnepp. 44, 19 (1966)

RONY, Peter R.
Effect of Oxygen, Nitrogen, and Water in Low-Pressure Hydrogen Discharges (E)—Peter R. Rony and D. N. Hanson. 44, 2536(L) (1966)

ROSENBAUM, B. M.
Thermal Conductivity of Argon in the Dense Gaseous and Liquid Regions (E/T)—B. M. Rosenbaum, S. Oshen, and G. Thodos. 44, 2831 (1966)

ROSENFELD, J. L. J.
Calculation of Chemical Reaction Probabilities from Elastic Scattering Data (T)—J. L. J. Rosenfeld and J. Ross. 44, 188 (1966)

ROSENGREN, Kjell
Hydrogen Bonding of Hydrazoic Acid in Solid Nitrogen (E)—G. C. Pimentel, S. W. Charles, and K. Rosengren. 44, 3029 (1966)
Infrared Spectrum and Vibrational Potential Function of Hydrazoic Acid (E/T)—C. Bradley Moore and Kjell Rosengren. 44, 4108 (1966)

ROSENSTOCK, H. M.
Experimental and Theoretical Studies of Photoionization-Efficiency Curves for $C_2H_2$ and $C_2D_2$ (E/T)—R. Botter, V. H. Dibeler, J. A. Walker, and H. M. Rosenstock. 44, 1271 (1966)
Photoionization Mass Spectrometry of NO (E)—R. M. Reese and H. M. Rosenstock. 44, 2007 (1966)

ROSKOS, R. R.
Isotope Effects on Molar Volume and Surface Tension: Simple Theoretical Model and Experimental Data for Hydrocarbons (E/T)—L. S. Bartell and R. R. Roskos. 44, 457 (1966)

ROSNER, S. D.
Energy Distribution Among Products of Exothermic Reactions. II. Repulsive, Mixed, and Attractive Energy Release (T)—P. J. Kuntz, E. M. Nemeth, J. C. Polanyi, S. D. Rosner, and C. E. Young. 44, 1168 (1966)

ROSS, John
Calculation of Chemical Reaction Probabilities from Elastic Scattering Data (T)—J. L. J. Rosenfeld and J. Ross. 44, 188 (1966)
Nonequilibrium Effects in the Kinetics of Gas-Phase Reactions (T)—Neil S. Snider and John Ross. 44, 1087 (1966)
Some Applications of the $R$-Matrix Theory to Reactive and Elastic Molecular Scattering (T)—Byung Chan Eu and John Ross. 44, 2467 (1966)

ROSS, Kevin J.
Intensity Distribution in the Energy-Loss Spectrum of Ethylene (E)—Kevin J. Ross and Edwin N. Lassettre. 44, 4633 (1966)

ROSS, William R.
Electronic Bases of Molecular Vibrations. III. *Ab Initio* Calculations of $H_2^+$ and $H_2$ Force Constants (T)—William R. Ross and Paul Phillipson. 44, 844(L) (1966)

ROTHBERG, J. E.
Muonium Chemistry (E)—R. M. Mobley, J. M. Bailey, W. E. Cleland, V. W. Hughes, and J. E. Rothberg. 44, 4354(L) (1966)

ROTHENBERG, Stephen
Hydrogen-Molecule Excited States: $^1\pi_u$ (T)—Stephen Rothenberg and Ernest R. Davidson. 44, 730 (1966)

ROTHSCHILD, Walter G.
Group Frequencies in Cyclopropanes. A Correlation Diagram (E/T)—Walter G. Rothschild. 44, 1712(L) (1966)
On the Existence of Conformers of Cyclobutyl Monohalides (T/E)—Walter G. Rothschild. 44, 2213(L) (1966)
Infrared and Raman Spectrum of Bromocyclopropane between 3200 and 240 $cm^{-1}$ (E)—Walter G. Rothschild. 44, 3875 (1966)

RUBIN, Robert J.
Random-Walk Model of Adsorption of a Chain-Polymer Molecule on a Long Rigid-Rod Molecule (T)—Robert J. Rubin. 44, 2130 (1966)
Erratum: Random-Walk Model of Chain-Polymer Adsorption at a Surface (T)—Robert J. Rubin. [43, 2392 (1965)] 44, 2222 (1966)

RUNGE, R. J.
Dynamic Polarization in Hexafluorobenzene Solutions (E)—E. H. Poindexter, J. R. Stewart, R. J. Runge, and D. D. Thompson. 44, 4059(L) (1966)

RUNNELS, L. K.
Proton Coupling Constants in Cyclobutanone (T/E)—L. L. Combs and L. K. Runnels. 44, 2209(L) (1966)

RUSH, J. J.
Low-Frequency Motions and Barrier to Rotation in Phosphonium Iodide (E)—J. J. Rush. 44, 1722(L) (1966)

Neutron and Infrared Spectra of $HCrO_2$ and $DCrO_2$ (E)—J. J. Rush and J. R. Ferraro. 44, 2496 (1966)

Structure of Cubic Ammonium Fluosilicate: Neutron-Diffraction and Neutron-Inelastic-Scattering Studies (E)—E. O. Schlemper, W. C. Hamilton, and J. J. Rush. 44, 2499 (1966)

Neutron-Scattering Study of Hindered Rotational Motions and Phase Transitions in Hexamethylbenzene (E)—J. J. Rush and T. I. Taylor. 44, 2749 (1966)

RUSSELL, J. W.

Trimethylene Oxide. III. Far-Infrared Spectrum and Double-Minimum Vibration (E/T)—Sunney I. Chan, T. R. Borgers, J. W. Russell, H. L. Strauss, and W. D. Gwinn. 44, 1103 (1966)

RUSSO, Anthony L.

Importance of Impurities on Vibrational Relaxation Measurements in $N_2$ (E)—Anthony L. Russo. 44, 1305(L) (1966)

RUSTGI, M. L.

Erratum: Nuclear Magnetic Shielding Constants and X-Ray Atomic Scattering Factors for Two-, Three-, and Four-Electron Systems by Means of Analytic Hartree-Fock Wavefunctions (T)—M. L. Rustgi and P. Tiwari. [39, 2590 (1963)] 44, 1310 (1966)

RUTH, V.

Effect of Beam Temperature on the Heterogeneous Nucleation of Zinc from the Vapor (E)—V. Ruth, K. L. Moazed, and J. P. Hirth. 44, 2093 (1966)

RUTHERFORD, W. M.

Preparation of Highly Enriched Carbon-13 by Thermal Diffusion of Methane (E)—W. M. Rutherford and J. M. Keller. 44, 723 (1966)

RUTLEDGE, Ronald M.

One-Center-Expansion-Configuration-Interaction Studies on $CH_4$ and $NH_3$ (T)—Ronald M. Rutledge and Antony F. Saturno. 44, 977 (1966)

RYAN, Robert R.

On the Structure of Gaseous $XeF_6$ (E)—K. Hedberg, S. H. Peterson, R. R. Ryan, and B. Weinstock. 44, 1726(L) (1966)

RYNBRANDT, J. D.

Correlated EPR-Optical Spectra of Potassium in Ethylamine–Ammonia Mixtures (E)—L. R. Dalton, J. D. Rynbrandt, E. M. Hansen, and J. L. Dye. 44, 3969 (1966)

SAFFORD, George J.

Study of the Low-Frequency $OH^-$ Motions of LiOH by Neutron Inelastic Scattering (E)—George J. Safford and Frank J. LoSacco. 44, 345 (1966)

SAGE, Gloria W.

On the Non-Hecht Pulse-Height-Voltage Behavior of Anthracene (E)—Gloria W. Sage. 44, 3685 (1966)

SAIKA, A.

Convergence of High-Resolution NMR Spectral Analysis by Iterative Methods (T/E)—Yoshifumi Kato and A. Saika. 44, 2824(L) (1966)

SALATHIEL, William M.

Microwave Spectrum of Methylazide (E)—William M. Salathiel and R. F. Curl, Jr. 44, 1288 (1966)

SALEM, Lionel

Energy of Interaction between Two Molecules (T)—Jeremy I. Musher and Lionel Salem. 44, 2943 (1966)

SALES, K. D.

Electronic Structure of Diatomic Molecules. III.A. Hartree-Fock Wavefunctions and Energy Quantities for $N_2(X\,^1\Sigma_g^+)$ and $N_2^+(X\,^2\Sigma_g^+, A\,^2\Pi_u, B\,^2\Sigma_u^+)$ Molecular Ions (T)—P. E. Cade, K. D. Sales, and A. C. Wahl. 44, 1973 (1966)

SALOVEY, R.

Comparison of Radical and Nonradical Processes in the Condensed-Phrase Radiolysis of *n*-Hexadecane (E)—W. E. Falconer and R. Salovey. 44, 3151 (1966)

SALSBURG, Zevi W.

Statistical-Mechanical Properties of Small Systems in the Isothermal-Isobaric Ensemble (T)—Zevi W. Salsburg. 44, 3090 (1966)

Rigid Disks and Spheres at High Densities: Bounds on the Partition Function (T)—Zevi W. Salsburg. 44, 3752 (1966)

SALVETTI, O.

Three-Center-Expansion SCF MO for $H_2$ (T)—R. Bonaccorsi, O. Salvetti, E. Scrocco, and J. Tomasi. 44, 4361(L) (1966)

SALZANO, F. J.

On the Bonding Energy in Cesium–Graphite Compounds (T)—F. J. Salzano and S. Aronson. 44, 4320 (1966)

SAMS, John R.

Three-Body Effects in Physical Adsorption (T)—Robert Wolfe and John R. Sams. 44, 2181 (1966)

SAMUELSON, H. V.

Fundamental Frequency Assignment of Thionyl Fluoride ($SOF_2$) (E)—E. L. Pace and H. V. Samuelson. 44, 3682 (1966)

SANDHU, H. S.

Effect of Paramagnetic Impurities on Proton Spin-Lattice Relaxation Time in Methane (E)—H. S. Sandhu. 44, 2320 (1966)

SANDLER, Stanley I.

Transport Properties of Polyatomic Fluids. II. A Dilute Gas of Spherocylinders (T)—Stanley I. Sandler and John S. Dahler. 44, 1229 (1966)

SATHIANANDAN, Krishnan

Spin Statistics Isomerization in Methane (T/E)—R. F. Curl, Jr., J. V. V. Kasper, K. S. Pitzer, and K. Sathianandan. 44, 4636(L) (1966)

SATTEN, R. A.

Magnetic-Dipole Intensities and Zeeman Effect in $Cs_2UCl_6$ (E)—D. Johnston, R. Satten, and E. Wong. 44, 687 (1966)

Covalency Effects in $U^{4+}$ Halide Complexes (E)—D. R. Johnston, R. A. Satten, C. L. Schreiber, and E. Y. Wong. 44, 3141(L) (1966)

SATURNO, Antony F.

One-Center-Expansion-Configuration-Interaction Studies on $CH_4$ and $NH_3$ (T)—Ronald M. Rutledge and Antony F. Saturno. 44, 977 (1966)

SAUER, Myran C., Jr.

Absorption Spectra of the Solvated Electron in Polar Liquids: Dependence on Temperature and Composition of Mixtures (E)—Shigeyoshi Arai and Myran C. Sauer, Jr. 44, 2297 (1966)

SAVOIE, R.

Infrared and Raman Studies of Crystalline HCl, DCl, HBr, and DBr (E)—R. Savoie and A. Anderson. 44, 548 (1966)

SAXENA, S. C.

Equation of State, Grüneisen Constant, and Interatomic Forces (T)—C. M. Kachhava and S. C. Saxena. 44, 986 (1966)

SAYRE, W. G.

Kinetics of Rapid Reactions in Liquid Ammonia. The Ammonia–Amide Proton Exchange (E/T)—T. J. Swift, S. B. Marks, and W. G. Sayre. 44, 2797 (1966)

Determination of Hydration Numbers of Cations in Aqueous Solution by Means of Proton NMR (E)—T. J. Swift and W. G. Sayre. 44, 3567 (1966)

SCHACHTSCHNEIDER, J. H.
Vibrational Analysis of Acetone, Acetaldehyde, and Formaldehyde (T/E)—P. Cossee and J. H. Schachtschneider. 44, 97 (1966)
SCHATZ, P. N.
Magneto-Optical Rotatory Dispersion of Porphyrins and Phthalocyanines (T)—P. J. Stephens, W. Suětaka, and P. N. Schatz. 44, 4592 (1966)
SCHELLMAN, John A.
Symmetry Rules for Optical Rotation (T)—John A. Schellman. 44, 55 (1966)
SCHERAGA, Harold A.
Conformational Analysis of Macromolecules. II. The Rotational Isomeric States of the Normal Hydrocarbons (T)—Roy A. Scott and Harold A. Scheraga. 44, 3054 (1966)
SCHETTINO, V.
Crystal Spectra in Polarized Light, Vibrational Assignment, and Force-Constant Calculations of Phenanthrene (E/T)—V. Schettino, N. Neto, and S. Califano. 44, 2724 (1966)
SCHIFF, H. I.
Thermal Energy Ion–Neutral Reaction Rates. I. Some Reactions of Helium Ions (E)—F. C. Fehsenfeld, A. L. Schmeltekopf, P. D. Goldan, H. I. Schiff, and E. E. Ferguson. 44, 4087 (1966)
Thermal Energy Ion–Neutral Reaction Rates. II. Some Reactions of Ionospheric Interest (E)—P. D. Goldan, A. L. Schmeltekopf, F. C. Fehsenfeld, H. I. Schiff, and E. E. Ferguson. 44, 4095 (1966)
SCHINDLER, Ralph N.
Rare-Gas-Sensitized Vacuum uv Photolysis of Some Aliphatic Hydrocarbons (E)—Günther von Bünau and Ralph N. Schindler. 44, 420(L) (1966)
SCHLEMPER, Elmer O.
Structure of Cubic Ammonium Fluosilicate: Neutron-Diffraction and Neutron-Inelastic-Scattering Studies (E)—E. O. Schlemper, W. C. Hamilton, and J. J. Rush. 44, 2499 (1966)
Neutron-Diffraction Study of the Structures of Ferroelectric and Paraelectric Ammonium Sulfate (E)—Elmer O. Schlemper and Walter C. Hamilton. 44, 4498 (1966)
SCHLESINGER, M.
Postulated Structures Causing the Optical Color Center Bands in Amethyst Quartz (E)—M. Schlesinger and Alvin J. Cohen. 44, 3146(L) (1966)
SCHMELTEKOPF, A. L.
Thermal-Energy Ion-Neutral Reaction Rates. III. The Measured Rate Constant for the Reaction $O^+(^4S) + CO_2(^1\Sigma) \rightarrow O_2^+(^2\Pi) + CO(^1\Sigma)$ (E)—F. C. Fehsenfeld, E. E. Ferguson, and A. L. Schmeltekopf. 44, 3022 (1966)
Thermal Energy Ion–Neutral Reaction Rates. I. Some Reactions of Helium Ions (E)—F. C. Fehsenfeld, A. L. Schmeltekopf, P. D. Goldan, H. I. Schiff, and E. E. Ferguson. 44, 4087 (1966)
Thermal Energy Ion–Neutral Reaction Rates. II. Some Reactions of Ionospheric Interest (E)—P. D. Goldan, A. L. Schmeltekopf, F. C. Fehsenfeld, H. I. Schiff, and E. E. Ferguson. 44, 4095 (1966)
Thermal Energy Ion–Neutral Reaction Rates. IV. Nitrogen Ion Charge-Transfer Reactions with CO and $CO_2$ (E)—F. C. Fehsenfeld, A. L. Schmeltekopf, and E. E. Ferguson. 44, 4537 (1966)
SCHMITT, Raymond J.
Homogeneous Nucleation Measurements of Water Vapor in Helium (E)—James L. Kassner, Jr., and Raymond J. Schmitt. 44, 4166 (1966)
SCHNEIDER, W. G.
Transients of Volume-Controlled Current and of Recombination Radiation in Anthracene (E)—W. Helfrich and W. G. Schneider. 44, 2902 (1966)
SCHNEPP, O.
Electronic Spectrum of (2, 2)Paracyclophane. II (E)—Arza Ron and O. Schnepp. 44, 19 (1966)
SCHOTT, M.
On Electron Absorption in the Near Infrared in Copper Phthalocyanine (E)—M. Schott. 44, 429(L) (1966)
SCHRAM, B. L.
Absolute Gross Ionization Cross Sections for Electrons (0.6-12 keV) in Hydrocarbons (E)—B. L. Schram, M. J. van der Wiel, F. J. de Heer, and H. R. Moustafa. 44, 49 (1966)
Partial Ionization Cross Sections of He, Ne, $H_2$, and $CH_4$ for Electrons from 20 to 500 eV (E)—B. Adamczyk, A. J. H. Boerboom, B. L. Schram, and J. Kistemaker. 44, 4640(L) (1966)
SCHREIBER, C. L.
Covalency Effects in $U^{4+}$ Halide Complexes (E)—D. R. Johnston, R. A. Satten, C. L. Schreiber, and E. Y. Wong. 44, 3141(L) (1966)
SCHREINER, Felix
Heat Capacity and Other Thermodynamic Properties of $MoF_6$ between 4° and 350°K (E)—D. W. Osborne, F. Schreiner, J. G. Malm, H. Selig, and L. Rochester. 44, 2802 (1966)
SCHULER, Robert H.
ESR Spectrum of FOO (E)—Richard W. Fessenden and Robert H. Schuler. 44, 434 (1966)
SCHULTZ, Harvey A.
Scintillations and Energy Transfer in Argon-Nitrogen Mixtures (E)—Harvey A. Schultz. 44, 377 (1966)
SCHULZ, G. J.
Energy Levels of the Compound State of $N_2$ Near 2.3 eV (E)—G. J. Schulz and H. C. Koons. 44, 1297(L) (1966)
SCHULZ, W. R.
Kinetics of the Reaction $D + H_2 = HD + H$ (E)—B. A. Ridley, W. R. Schulz, and D. J. Le Roy. 44, 3344 (1966)
SCHUSTER, B. G.
Homogeneous Nucleation of Water Vapor Determined by Scattering of a Laser Beam (E)—B. G. Schuster and W. B. Good. 44, 3132(L) (1966)
SCHUTTEN, J.
Gross- and Partial-Ionization Cross Sections for Electrons on Water Vapor in the Energy Range 0.1-20 keV (E)—J. Schutten, F. J. de Heer, H. R. Moustafa, A. J. H. Boerboom, and J. Kistemaker. 44, 3924 (1966)
SCHWENDEMAN, R. H.
Application of the Hellmann-Feynman and Virial Theorems to the Theoretical Calculation of Molecular Potential Constants (T)—R. H. Schwendeman. 44, 556 (1966)
Comparison of Experimentally Derived and Theoretically Calculated Derivatives of the Energy, Kinetic Energy, and Potential Energy for CO (T)—R. H. Schwendeman. 44, 2115 (1966)
SCIAMANNA, A. F.
Erratum: Metastable State of the Double-Charged Carbon Dioxide Ion (E)—Amos S. Newton and A. F. Sciamanna. [40, 718 (1964)] 44, 2830 (1966)
Metastable Peaks in the Mass Spectra of $N_2O$ and $NO_2$ (E)—Amos S. Newton and A. F. Sciamanna. 44, 4327 (1966)
SCOTT, Allen B.
Electron Traps in Deformed Alkali Halide Crystals (E)—Masamitsu Hirai and Allen B. Scott. 44, 1753 (1966)

SCOTT, B. A.
$^{59}$Co Nuclear Electric Quadrupole Coupling in a Single Crystal of $Co(en)_3Cl_3 \cdot 3H_2O$ (E)—B. A. Scott and R. A. Bernheim. 44, 2004 (1966)
SCOTT, D. R.
Quantum-Mechanical Potential-Energy Curve for the Lowest $^1\Sigma_u^+$ State of $He_2$ (T)—D. R. Scott, E. M. Greenwalt, J. C. Browne, and F. A. Matsen. 44, 2981 (1966)
SCOTT, Roy A.
Conformational Analysis of Macromolecules. II. The Rotational Isomeric States of the Normal Hydrocarbons (T)—Roy A. Scott and Harold A. Scheraga. 44, 3054 (1966)
SCOTT, T. A.
Temperature and Pressure Dependence of the Nuclear Quadrupole Resonance of $^{14}N$ in $(CH_2)_6N_4$ (E/T)—G. A. Matzkanin, T. N. O'Neal, T. A. Scott, and P. J. Haigh. 44, 4171 (1966)
SCROCCO, E.
Three-Center-Expansion SCF MO for $H_2$ (T)—R. Bonaccorsi, O. Salvetti, E. Scrocco, and J. Tomasi. 44, 4361(L) (1966)
SEARS, John T.
Excitation of Nitrogen Gas by Alpha Particles and Fission Fragments (E)—Robert C. Axtmann and John T. Sears. 44, 3279 (1966)
SEBACHER, Daniel I.
Primary and Afterglow Emission from Low-Temperature Gaseous Nitrogen Excited by Fast Electrons (E)—Daniel I. Sebacher. 44, 4131 (1966)
SEDERHOLM, C. H.
NMR Spectrum of 3-Chlorothietane, an Example of Complete NMR Spectral Analysis by Computer Techniques (E)—W. D. Keller, T. R. Lusebrink, and C. H. Sederholm. 44, 782 (1966)
SEGAL, G. A.
Approximate Self-Consistent Molecular Orbital Theory. III. CNDO Results for $AB_2$ and $AB_3$ Systems (T)—J. A. Pople and G. A. Segal. 44, 3289 (1966)
SEKERKA, R. F.
Mathematical Analysis of the Thermal Wave Technique for Linear Kinetics (T)—R. F. Sekerka and W. A. Tiller. 44 3829 (1966)
SELIG, Henry
Infrared Spectra of $VOF_3$ and $POF_3$ (E)—Henry Selig and Howard H. Claassen. 44, 1404 (1966)
Heat Capacity and Other Thermodynamic Properties of $MoF_6$ between 4° and 350°K (E)—D. W. Osborne, F. Schreiner, J. G. Malm, H. Selig, and L. Rochester. 44, 2802 (1966)
Vibrational Spectra of Vanadium Pentafluoride (E)—Howard H. Claassen and Henry Selig. 44, 4039 (1966)
SEVERNE, G.
Nonstationary Contributions to the Bulk Viscosity and Other Transport Coefficients (T)—G. Nicolis and G. Severne. 44, 1477 (1966)
SHAFFER, J. C.
Optical Absorption and Energy Levels of Manganese in ZnS:Mn Crystals (E/T)—H. E. Gumlich, R. L. Pfrogner, J. C. Shaffer, and F. E. Williams. 44, 3929 (1966)
SHAPIRO, R. C.
Homonuclear Diatomic One-Electron Eigenfunctions as Basis Sets (T)—R. C. Shapiro, R. C. C. Lao, and J. R. Riter, Jr. 44, 846(L) (1966)
SHARP, E. J.
Magnetic Properties of Lattice Imperfections in Alkali Halide Single Crystals (E/T)—T. W. Adair III, E. J. Sharp, and C. F. Squire. 44, 3650 (1966)
SHAVITT, I.
LCAO-SCF Computations for Hydrogen Peroxide (T)—U. Kaldor and I. Shavitt. 44, 1823 (1966)
SHAW, Thomas M.
Transfer of $N_2$ Vibrational Energy to Potassium (E)—Walter L. Starr and Thomas M. Shaw. 44, 4181 (1966)
SHAW, Marion L.
Chemisorption of Electronegative Gases on Refractory Metals (E)—Marion L. Shaw and N. P. Carleton. 44, 3387 (1966)
SHEN, Mitchel C.
Intermolecular Obstruction in Rubber Elasticity Theory (T)—J. L. Jackson, M. C. Shen, and D. A. McQuarrie. 44, 2388 (1966)
SHERWOOD, A. E.
Nonadditivity of Intermolecular Forces: Effects on the Third Virial Coefficient (T)—A. E. Sherwood, Andrew G. De Rocco, and E. A. Mason. 44, 2984 (1966)
SHERWOOD, R. C.
Preparation and Low-Temperature Magnetic Properties of the Terbium Oxides (E)—J. B. MacChesney, H. J. Williams, R. C. Sherwood, and J. F. Potter. 44, 596 (1966)
SHIDA, Shoji
Mechanism of the Benzene Formation in the Mercury-Photosensitized Reaction of Acetylene (E)—Masao Tsukuda and Shoji Shida. 44, 3133(L) (1966)
SHIDA, Tadamasa
Molecular Ions in Radiation Chemistry. I. Formation of Aromatic-Amine Cations in $CCl_4$ by Resonance Charge Transfer at 77°K (E)—Tadamasa Shida and William H. Hamill. 44, 2369 (1966)
Molecular Ions in Radiation Chemistry. II. Aromatic-Hydrocarbon Cations in $CCl_4$ at 77°K (E)—Tadamasa Shida and William H. Hamill. 44, 2375 (1966)
Molecular Ions in Radiation Chemistry. III. Absorption Spectra of Aromatic-Hydrocarbon Cations and Anions in Organic Glasses (E)—Tadamasa Shida and William H. Hamill. 44, 4372 (1966)
SHIELDS, L.
Ag (I) and Ag (II) from Solvated Ag (II) by Radiation-Chemical Conversion in $\gamma$-Irradiated Solutions at 77°K (E)—L. Shields. 44, 1685 (1966)
SHIGEOKA, Tadayoshi
Lattice Vibrations of Pyrazine Crystal (E)—Mitsuo Ito and Tadayoshi Shigeoka. 44, 1001 (1966)
SHIMANOUCHI, Takehiko
Normal Vibrations and Intermolecular Forces of Crystalline Benzene and Naphthalene (T)—Issei Harada and Takehiko Shimanouchi. 44, 2016 (1966)
SHIN, H.
On the Massey-Mohr Method for Total Elastic Cross Section (T)—H. Shin. 44, 2538(L) (1966)
SHINER, V. J., Jr.
Experimental Determination of the Disproportionation of Hydrogen Isotopes in Water (E)—L. Friedman and V. J. Shiner, Jr. 44, 4639(L) (1966)
SHULL, Harrison
Quantum-Mechanical Study of Some Three-Center Two-Electron Systems. I. Energy Calculations (T)—K. E. Banyard and Harrison Shull. 44, 384 (1966)
SIEBRAND, W.
Mechanism of Radiationless Triplet Decay in Aromatic Hydrocarbons and the Magnitude of the Franck-Condon Factors (T)—W. Siebrand. 44, 4055(L) (1966)
SIECK, L. W.
Xenon-Sensitized Radiolysis of Propane (E/T)—L. I. Bone, L. W. Sieck, and J. H. Futrell. 44, 3667 (1966)

SIEGEL, Seymour
Method of "Magnetophotoselection" of the Lowest Excited Triplet State of Aromatic Molecules (E)—M. A. El-Sayed and Seymour Siegel. 44, 1416 (1966)
Study of Triplet-Triplet Transfer by the Method of Magnetophotoselection. II. Concentration Depolarization (E)—Seymour Siegel and Lester Goldstein. 44, 2780 (1966)
SIENKO, M. J.
Electric, Magnetic, and Magnetic Resonance Properties of the Nonstoichiometric Sodium-Vanadium Bronzes (E)—M. J. Sienko and J. B. Sohn. 44, 1369 (1966)
SILVER, Brian L.
Electron Spin Resonance of Parabenzosemiquinone-$^{17}O$ (E)—B. L. Silver, Z. Luz, and C. Eden. 44. 4258 (1966)
Sign of the $^{17}O$ Hyperfine Coupling Constant in Fremy's Salt (E)—Z. Luz, B. L. Silver, and C. Eden. 44, 4421 (1966)
SILVER, D. M.
Quenching of $NO_2$ Fluorescence (E)—G. H. Myers, D. M. Silver, and F. Kaufman. 44, 718 (1966)
SILVERMAN, Jeremiah N.
Single-Configuration Open-Shell Calculations for the Boron Isoelectronic Sequence (T)—George H. Brigman and Jeremiah N. Silverman. 44, 3136(L) (1966)
SILVERMAN, S. M.
Test of the Low-Energy Limit of the Born Approximation (T)—S. M. Silverman and E. N. Lassettre. 44, 2219(L) (1966)
SILVERSTONE, Harris J.
Many-Electron Theory of Nonclosed-Shell Atoms and Molecules. I. Orbital Wavefunction and Perturbation Theory (T)—Harris J. Silverstone and Oktay Sinanoğlu. 44, 1899 (1966)
Many-Electron Theory of Nonclosed-Shell Atoms and Molecules. II. Variational Theory (T)—Harris J. Silverstone and Oktay Sinanoğlu. 44, 3608 (1966)
ŠIMÁNEK, E.
Covalency Parameters and the $g$ Factor for $Ni^{2+}$: $KMgF_3$ (T)—Nai Li Huang and E. Šimánek. 44, 2524 (1966)
SIMMONS, J. D.
Electric Quadrupole Transition in the $A\,^1\Pi \leftarrow X\,^1\Sigma^+$ System of CO (E)—S. G. Tilford and J. D. Simmons. 44, 4145 (1966)
SIMONS, J. W.
Electrical Resistance of Dilute Solutions of Hydrogen in Palladium (E/T)—J. W. Simons and Ted B. Flanagan. 44, 3486 (1966)
SIMPSON, J. Arol
Resonances in Electron Scattering from $H_2$, HD, and $D_2$ (E)—C. E. Kuyatt, J. A. Simpson, and S. R. Mielczarek. 44, 437 (1966)
Absorption Spectrum of $SF_6$ in the Far Ultraviolet by Electron Impact (E)—J. A. Simpson, C. E. Kuyatt, and S. R. Mielczarek. 44, 4403 (1966)
SINANOĞLU, Oktay
Theoretical Transition Probabilities (T)—S. R. La Paglia and Oktay Sinanoğlu. 44, 1888 (1966)
Many-Electron Theory of Nonclosed-Shell Atoms and Molecules. I. Orbital Wavefunction and Perturbation Theory (T)—Harris J. Silverstone and Oktay Sinanoğlu. 44, 1899 (1966)
Many-Electron Theory of Nonclosed-Shell Atoms and Molecules. II. Variational Theory (T)—Harris J. Silverstone and Oktay Sinanoğlu. 44, 3608 (1966)
SINGER, L. S.
Electron Spin Resonance of the Radical Ions of an Isomeric Alternant and Nonalterant Aromatic Hydrocarbon (E)—I. C. Lewis and L. S. Singer. 44, 2082 (1966)
SKELLY, David W.
Trapped Electrons in $\gamma$-Irradiated 3-Methylpentane at −196° (E)—David W. Skelly and William H. Hamill. 44, 2891 (1966)
SKERBELE, Ausma
Intensity Variation with Scattering Angle of Electronic Transitions in $H_2O$ Excited by Electron Impact (E)—Ausma Skerbele and Edwin N. Lassettre. 44, 4066 (1966)
Vibrational Intensities of the $A\,^1\Pi \leftarrow X\,^1\Sigma^+$ Transition in Carbon Monoxide (E)—Ausma Skerbele, Vincent D. Meyer, and Edwin N. Lassettre. 44, 4069 (1966)
SLANGER, T. G.
Electronic Excitation Accompanying Charge Exchange (E)—M. Haugh, T. G. Slanger, and K. D. Bayes. 44, 837(L) (1966)
SLICHTER, W. P.
Effect of Hydrostatic Pressure on Molecular Rotation in Solids (E)—J. E. Anderson and W. P. Slichter. 44, 1797 (1966)
NMR Studies of the Pressure Dependence of Self-Diffusion in Four Organic Solids (E)—J. E. Anderson and W. P. Slichter. 44, 3647 (1966)
SLIE, W. M.
Ultrasonic Shear and Longitudinal Measurements in Aqueous Glycerol (E)—W. M. Slie, A. R. Donfor, Jr., and T. A. Litovitz. 44, 3712 (1966)
SMITH, Francis J.
Energy of Excimer Luminescence. V. Excimer Fluorescence of Naphthalene and Methylnaphthalenes (T/E)—F. J. Smith, A. T. Armstrong, and S. P. McGlynn. 44, 442 (1966)
Molecular Rainbows for the 12-6 Potential in the Airy Approximation (T)—E. A. Mason, R. J. Munn, and F. J. Smith. 44, 1967 (1966)
Thermal Diffusion in Almost Lorentzian Mixtures (T)—E. A. Mason and Francis J. Smith. 44, 3100 (1966)
SMITH, J. M.
Force Constants for MC, CN Interaction in $Hg(CN)_2$ (E)—J. M. Smith and L. H. Jones. 44, 3643(L) (1966)
SMITH, Richard P.
Anisotropy of Polarizability of Polymeric Chains (T)—Richard P. Smith. 44, 2543 (1966)
SMITH, Wm. Hayden
Far-Infrared Spectra of Crystalline Acetylenes $C_2H_2$ and $C_2D_2$ (E)—A. Anderson and Wm. Hayden Smith. 44, 4216 (1966)
SNELLING, David R.
Vibrational Energy of Ozone During Photolytic Explosion (E)—V. D. Baiamonte, D. R. Snelling, and E. J. Bair. 44, 673 (1966)
Decomposition of Ozone by $O(^1D)$ (E)—D. R. Snelling, V. D. Baiamonte, and E. J. Bair. 44, 4137 (1966)
SNIDER, Neil S.
Nonequilibrium Effects in the Kinetics of Gas-Phase Reactions (T)—Neil S. Snider and John Ross. 44, 1087 (1966)
SNIPES, Wallace
Electron Spin Resonance of a Gamma-Irradiated Single Crystal of Barbituric Acid Dihydrate (E/T)—William Bernhard and Wallace Snipes. 44, 2817 (1966)
SNYDER, L. C.
NMR of Tetrahedral Molecules in a Nematic Solvent (E)—L. C. Snyder and S. Meiboom. 44, 4057(L) (1966)
SOHN, J. B.
Electric, Magnetic, and Magnetic Resonance Properties of the Nonstoichiometric Sodium-Vanadium Bronzes (E)—M. J. Sienko and J. B. Sohn. 44, 1369 (1966)

SOKOLOV, Uriel
Photolysis of Liquid Water at 1470 Å (E)—Uriel Sokolov and Gabriel Stein. 44, 2189 (1966)
Photolysis of Liquid Water at 1849 Å (E)--Uriel Sokolov and Gabriel Stein. 44, 3329 (1966)
SOMORJAI, R. L.
Direct Analysis and Improvement of Electron Densities and Wavefunctions by a Perturbation-Variation Method (T)—R. L. Somorjai. 44, 3041 (1966)
Optical Study of Copper Diffusion in Cadmium Sulfide Single Crystals (E/T)—Whalun Szeto and G. A. Somorjai. 44, 3490 (1966)
Surface Debye Temperatures of the (100), (111), and (110) Faces of Platinum (E/T)—H. B. Lyon and G. A. Somorjai. 44, 3707 (1966)
SOOS, Zoltán G.
Motional Narrowing in One-Dimensional Triplet-Exciton Systems (T)—Zoltán G. Soos. 44, 1729 (1966)
SOVERS, O. J.
Distortional Effects on the Ethane Internal-Rotation Barrier (T)—O. J. Sovers and M. Karplus. 44, 3033 (1966)
SPRATLEY, Richard D.
Dioxygen Monofluoride: Infrared Spectrum, Vibrational Potential Function, and Bonding (E)—R. D. Spratley, J. J. Turner, and G. C. Pimentel. 44, 2063 (1966)
SQUIRE, C. F.
Magnetic Properties of Lattice Imperfections in Alkali Halide Single Crystals (E/T)—T. W. Adair III, E. J. Sharp, and C. F. Squire. 44, 3650 (1966)
ŠROUBEK, Z.
Electron Spin Resonance of $Cu^{2+}$ Ion in $CdWO_4$, $ZnWO_4$, and $MgWO_4$ Single Crystals (E/T)—Z. Šroubek and K. Ždánský. 44, 3078 (1966)
STAFF, P. J.
Stochastic Approach to First-Order Chemical Reaction Kinetics (T)—I. G. Darvey and P. J. Staff. 44, 990 (1966)
STAFFORD, Fred E.
Electron-Impact Ionization Cross Sections for Atoms (E)—J. L. Cooper, Jr., G. A. Pressley, Jr., and F. E. Stafford. 44, 3946 (1966)
STAFSUDD, O. M.
EPR Spectra of $Gd^{3+}$-Doped $LaBr_3$ and $La_2(SO_4)_3 \cdot 9H_2O$ (E/T)—D. R. Johnston, E. Y. Wong, and O. M. Stafsudd. 44, 2693 (1966)
STANTON, H. E.
Kinetic Energies of Products of Ion-Molecule Reactions. (E) H. E. Stanton and S. Wexler. 44, 2959 (1966)
STARR, Walter L.
Transfer of $N_2$ Vibrational Energy to Potassium (E)—Walter L. Starr and Thomas M. Shaw. 44, 4181 (1966)
STEIN, Gabriel
Photolysis of Liquid Water at 1470 Å (E)—Uriel Sokolov and Gabriel Stein. 44, 2189 (1966)
Photolysis of Liquid Water at 1849 Å (E)—Uriel Sokolov and Gabriel Stein. 44, 3329 (1966)
On the Formation of the Molecular Hydrogen Peroxide in the Radiolysis of Aqueous Solutions (E)—M. Anbar, I. Pecht, and G. Stein. 44, 3635(L) (1966)
STEINER, Erich
On the Electronic Energy of a One-Electron Diatomic Molecule near the United Atom (T)—W. Byers Brown and Erich Steiner. 44, 3934 (1966)
STEINFELD, Jeffrey I.
Wavelength Dependence of the Quenching of Iodine Fluorescence (E/T)—Jeffrey I. Steinfeld. 44, 2740 (1966)
STEPHENS, P. J.
Faraday Effect of Vibronically Allowed Transitions: $d \rightarrow d$ Transitions in Co(III) Complexes (T)—P. J. Stephens. 44, 4060(L) (1966)
Magneto-Optical Rotatory Dispersion of Porphyrins and Phthalocyanines (T)—P. J. Stephens, W. Suětaka, and P. N. Schatz. 44, 4592 (1966)
STEWART, Frank E.
Study of the DMSO–TCNE Charge-Transfer Complex and Its Kinetics (E)—F. E. Stewart, M. Eisner, and W. R. Carper. 44, 2866 (1966)
STEWART, J. R.
Dynamic Polarization in Hexafluorobenzene Solutions (E)—E. H. Poindexter, J. R. Stewart, R. J. Runge, and D. D. Thompson. 44, 4059(L) (1966)
STICKNEY, R. E.
Simple Classical Model for the Scattering of Gas Atoms from a Solid Surface (T)—R. M. Logan and R. E. Stickney. 44, 195 (1966)
STIEF, L. J.
Vacuum-Ultraviolet Photochemistry. IV. Primary Processes in the Photolysis of Water at 1470 Å (E)—L. J. Stief. 44, 277 (1966)
Vacuum-Ultraviolet Photochemistry. V. Molecular Elimination of Nitrogen in the Photolysis of Hydrazine (E)—L. J. Stief and V. J. DeCarlo. 44, 4638(L) (1966)
STILLINGER, Frank H., Jr.
Self-Diffusion in Dense Fluids (T)—Frank H. Stillinger, Jr., and Raymond J. Suplinskas. 44, 2432 (1966)
STOUT, J. W.
Heat and Entropy of Hydration of $\alpha$-$NiSO_4 \cdot 6H_2O$ to $NiSO_4 \cdot 7H_2O$. Their Low-Temperature Heat Capacities (E)—J. W. Stout, R. C. Archibald, G. E. Brodale, and W. F. Giauque. 44, 405 (1966)
STRAND, Tor G.
Molecular Structures of Gaseous Hexabromo- and *ortho*-Dibromobenzene as Determined by Electron Diffraction (E)—Tor G. Strand. 44, 1611 (1966)
Molecular Structure of Gaseous Hexachloro- and 1,2,4,5-Tetrachlorobenzene as Determined by Electron Diffraction (E)—T. G. Strand and H. L. Cox, Jr. 44, 2426 (1966)
STRATTON, R.
High-Field Electron Emission from Indium Arsenide (E)—S. G. Truxillo, J. C. Blair, N. G. Einspruch, and R. Stratton. 44, 1724(L) (1966)
STRAUCH, J. G., Jr.
Ultrasonic Dispersion Observed by Optical Diffraction. II. Ammonia (E)—J. G. Strauch, Jr., and J. C. Decius. 44, 3319 (1966)
STRAUSS, H. L.
Trimethylene Oxide. III. Far-Infrared Spectrum and Double-Minimum Vibration (E/T)—Sunney I. Chan, T. R. Borgers, J. W. Russell, H. L. Strauss, and W. D. Gwinn. 44, 1103 (1966)
Third-Law Entropy of $C_3$ (T)—A. G. Robiette and H. L. Strauss. 44, 2826(L) (1966)
STRICKLER, S. J.
Comments on Fluorescence and Intersystem Crossing in Benzene Vapor (T)—S. J. Strickler and Richard J. Watts. 44, 426(L) (1966)
Fluorescence and Internal Conversion in Naphthalene Vapor (E)—Richard J. Watts and S. J. Strickler. 44, 2423 (1966)
STRUCK, Charles W.
Vibrational Levels of the $^2D$-$E$ State of $Ce^{3+}$ in $CaF_2$ (T/E)—Charles W. Struck and Fred Herzfeld. 44, 464 (1966)

SUART, S. R.
Vibrational Assignment of Anthracene-$d_{10}$ from the Fluorescence and Absorption Spectra (E)—A. Bree, S. Katagiri, and S. R. Suart. 44, 1788 (1966)

SUĚTAKA, W.
Magneto-Optical Rotatory Dispersion of Porphyrins and Phthalocyanines (T)—P. J. Stephens, W. Suětaka, and P. N. Schatz. 44, 4592 (1966)

SUGITA, Toshio
Adsorption and Oxidation of Carbon Monoxide on Clean Films of Palladium and Nickel (E)—K. Kawasaki, T. Sugita, and S. Ebisawa. 44, 2313 (1966)

SUMMERFIELD, G. C.
Neutron Scattering in Stretch-Oriented Polyethylene (E/T)—W. Myers, G. C. Summerfield, and J. S. King. 44, 184 (1966)

SUN, H. Y.
Conjecture on Resonant Transfer of Vibrational Energy and Radiationless Transitions in the Solid Phase: The Lifetime of Triplet Anthracene (T)—H. Y. Sun, J. Jortner, and S. A. Rice. 44, 2539(L) (1966)

SUNNER, Stig
On the Interpretation of Ring Strain (T)—Bengt Nelander and Stig Sunner. 44, 2476 (1966)

SUPLINSKAS, Raymond J.
Self-Diffusion in Dense Fluids (T)—Frank H. Stillinger, Jr., and Raymond J. Suplinskas. 44, 2432 (1966)

SUZUKI, I.
General Quartic Force Field of HCN (T)—I. Suzuki, M. A. Pariseau, and John Overend. 44, 3561 (1966)

SUZUKI, K.
EPR Study of the Dimerization of Wurster's Blue Perchlorate in Solution (E)—A. Kawamori, A. Honda, N. Joo, K. Suzuki, and Y. Ooshika. 44, 4363(L) (1966)

SVEHLA, Roger A.
Viscosity and Thermal Conductivity of the $N_2O_4 \rightleftharpoons 2NO_2$ System (T)—Richard S. Brokaw and Roger A. Svehla. 44, 4643(L) (1966)

SWANSON, B. S.
Measurement of Densities and Estimation of Critical Properties of the Alkali Metals (E/T)—I. G. Dillon, P. A. Nelson, and B. S. Swanson. 44, 4229 (1966)

SWENBERG, C. E.
Direct Radiative Exciton-Exciton Annihilation (T)—R. S. Knox and C. E. Swenberg. 44, 2577 (1966)

SWIFT, T. J.
Kinetics of Rapid Reactions in Liquid Ammonia. The Ammonia–Amide Proton Exchange (E/T)—T. J. Swift, S. B. Marks, and W. G. Sayre. 44, 2797 (1966)
Determination of Hydration Numbers of Cations in Aqueous Solution by Means of Proton NMR (E)—T. J. Swift and W. G. Sayre. 44, 3567 (1966)

SZETO, Whalun
Optical Study of Copper Diffusion in Cadmium Sulfide Single Crystals (E/T)—Whalun Szeto and G. A. Somorjai. 44, 3490 (1966)

SZMANT, H. Harry
Detection of Radiation Damage in Anthracene Crystals by Space-Charge-Limited Current Measurements (E)—S. Z. Weisz, A. Cobas, P. E. Richardson, H. H. Szmant, and S. Trester. 44, 1364 (1966)

TADOKORO, Hiroyuki
Vibrational Spectra of Trioxane and Trioxane-$d_6$ (E)—M. Kobayashi, R. Iwamoto, and H. Tadokoro. 44, 922 (1966)

TAHK, Charlotte T.
Quantum Dynamics of Anharmonic Oscillators. I. Simple Examples (T)—E. B. Alterman, C. T. Tahk, and D. J. Wilson. 44, 451 (1966)

TAKENO, Shozo
Exciton Impurity States in Molecular Crystals (T)—Shozo Takeno. 44, 853 (1966)

TANAKA, Ikuzo
Mechanism of Propane Formation by Ethane Photolysis at 1470 Å (E)—Kinichi Obi and Ikuzo Tanaka. 44, 424(L) (1966)
Photoionization by Argon Resonance Lines (E)—Masakazu Yoshida and Ikuzo Tanaka. 44, 494 (1966)
Ion–Molecule Reactions by a Photoionization Mass Spectrometer. I. Propylene and 1,3-Butadiene (E)—I. Koyano, I. Omura, and I. Tanaka. 44, 3850 (1966)

TAN CRETI, D. M.
Critical Opalescence of the Polystyrene–Cyclohexane System: Small-Angle X-Ray Scattering (E/T)—P. Debye, J. Bashaw, B. Chu, and D. M. Tan Creti. 44, 4302 (1966)

TANNHAUSER, D. S.
Electrical Properties of Cobalt Monoxide (E)—Bertina Fisher and D. S. Tannhauser. 44, 1663 (1966)

TAO, S. J.
Positron Annihilation in Materials under Ionizing Radiation (E)—S. J. Tao and J. H. Green. 44, 4007 (1966)

TARGOS, William
Thermal Quenching of Cr(III) Luminescence (E)—William Targos and Leslie S. Forster. 44, 4342 (1966)

TAYLOR, H. Austin
Sites for the Dehydrogenation of Formic Acid on Gold (E)—M. A. Bhakta and H. Austin Taylor. 44, 1264 (1966)

TAYLOR, T. I.
Neutron-Scattering Study of Hindered Rotational Motions and Phase Transitions in Hexamethylbenzene (E)—J. J. Rush and T. I. Taylor. 44, 2749 (1966)

TEMKIN, A.
Partial Wave Theory of $H_2$: Calculations of $\Sigma_g^+$ States (T)—A. K. Bhatia and A. Temkin. 44, 3656 (1966)

TENCH, A. J.
Use of $^{17}O$ in an ESR Study of Oxygen Chemisorption on Some Alkaline-Earth Oxides (E)—A. J. Tench and R. L. Nelson. 44, 1714(L) (1966)

TETER, M. P.
Hornbeck-Molnar Cross Sections for the $n=3$ States of Helium (E)—M. P. Teter, F. E. Niles, and W. W. Robertson. 44, 3018 (1966)

TEWARI, K. C.
Proton Nuclear Magnetic Relaxation Studies on Water: The Rates of Acid- and Base-Catalyzed Proton Exchange (E)—R. E. Glick and K. C. Tewari. 44, 546 (1966)

THODOS, George
Thermal Conductivity of Argon in the Dense Gaseous and Liquid Regions (E/T)—B. M. Rosenbaum, S. Oshen, and G. Thodos. 44, 2831 (1966)

THOMAS, E. C.
Microwave Spectrum of Germylacetylene (E)—E. C. Thomas and Victor W. Laurie. 44, 2602 (1966)

THOMAS, S.
Solvation Number and Solvent Exchange Rate of $Al(DMSO)_n^{3+}$ in DMSO (E)—S. Thomas and W. L. Reynolds. 44, 3148(L) (1966)

THOMPSON, D. D.
Dynamic Polarization in Hexafluorobenzene Solutions (E)—E. H. Poindexter, J. R. Stewart, R. J. Runge, and D. D. Thompson. 44, 4059(L) (1966)

THOMPSON, D. S.
Electron Paramagnetic Resonance Study of Solutions of Europium in Liquid Ammonia (E)—D. S. Thompson, E. E. Hazen, and J. S. Waugh. 44, 2954 (1966)

THOMPSON, Warren E.
Reactions of Carbon Atoms with $N_2$, $H_2$, and $D_2$ at 4.2°K (E)—Norman G. Moll and Warren E. Thompson. 44, 2684 (1966)

THOMPSON, W. P.
Glow-Discharge Shock Tube for Studying Chemiluminescent, Surface-Catalytic, and Gas-Phase Reaction Rates; Temperature Dependence of NO–O and CO–O Chemiluminescence (E)—R. A. Hartunian, W. P. Thompson, and E. W. Hewitt. 44, 1765 (1966)

THORN, R. J.
On the Calibration of the Mass Spectrometer for Measurement of Partial Vapor Pressures (T)—E. David Cater and R. J. Thorn. 44, 1342 (1966)
Nonstoichiometry in Uranium Dioxide (T)—R. J. Thorn and G. H. Winslow. 44, 2632 (1966)
Oxygen Self-Diffusion in Uranium Dioxide (T)—R. J. Thorn and G. H. Winslow. 44, 2822(L) (1966)
Uranium Monosulfide. III. Thermochemistry, Partial Pressures, and Dissociation Energies of US and $US_2$ (E)—E. D. Cater, E. G. Rauh, and R. J. Thorn. 44, 3106 (1966)

THROOP, Gerald J.
Radial Distribution Functions for Binary Fluid Mixtures of Lennard-Jones Molecules Calculated from the Percus-Yevick Equation (T)—Gerald J. Throop and Richard J. Bearman. 44, 1423 (1966)

TILFORD, S. G.
Electric Quadrupole Transition in the $A\,^1\Pi \leftarrow X\,^1\Sigma^+$ System of CO (E)—S. G. Tilford and J. D. Simmons. 44, 4145 (1966)

TILLER, W. A.
Mathematical Analysis of the Thermal Wave Technique for Linear Kinetics (T)—R. F. Sekerka and W. A. Tiller. 44 3829 (1966)

TIPPING, R.
Finite Nuclear Mass and Relativistic Effects on the Rotational Constant of Molecular Hydrogen (T)—R. Tipping and R. M. Herman. 44, 3112 (1966)

TIWARI, P.
Erratum: Nuclear Magnetic Shielding Constants and X-Ray Atomic Scattering Factors for Two-, Three-, and Four-Electron Systems by Means of Analytic Hartree-Fock Wavefunctions (T)—M. L. Rustgi and P. Tiwari. [39, 2590 (1963)] 44, 1310 (1966)

TOMASI, J.
Three-Center-Expansion SCF MO for $H_2$ (T)—R. Bonaccorsi, O. Salvetti, E. Scrocco, and J. Tomasi. 44, 4361(L) (1966)

TRAMER, A.
Charge-Transfer Complexes of Carbonyl Cyanide in Gas and Condensed Phases (E)—J. Prochorow and A. Tramer. 44, 4545 (1966)

TREANOR, Charles E.
Transition Probabilities for the Forced Harmonic Oscillator (T)—Charles E. Treanor. 44, 2220(L) (1966)

TRESTER, Seymour
Detection of Radiation Damage in Anthracene Crystals by Space-Charge-Limited Current Measurements (E)—S. Z. Weisz, A. Cobas, P. E. Richardson, H. H. Szmant, and S. Trester. 44, 1364 (1966)

TREVE, Y. M.
Fluorescent Efficiency of Energetic Electrons in the 3914-Å Band (T)—S. Frankenthal, O. P. Manley, and Y. M. Treve. 44, 257 (1966)

TRONTELJ, Z.
NMR Spectrum of a Nearly Linear Five-Spin System: Hydrogen Bonding in $KH_2F_3$ (T/E)—R. Blinc, Z. Trontelj, and B. Volavšek. 44, 1028 (1966)

TRUXILLO, S. G.
High-Field Electron Emission from Indium Arsenide (E)—S. G. Truxillo, J. C. Blair, N. G. Einspruch, and R. Stratton. 44, 1724(L) (1966)

TSANG, Wing
Thermal Decomposition of Hexamethylethane, 2,2,3-Trimethylbutane, and Neopentane in a Single-Pulse Shock Tube (E)—Wing Tsang. 44, 4283 (1966)

TSCHOEGL, N. W.
Stress Relaxation and Creep in Dilute Polymer Solutions (T)—N. W. Tschoegl. 44, 2331 (1966)
Estimation of the Hydrodynamic Interaction Parameter in Dilute Polymer Solutions from the Extinction Angle in Steady-Flow Birefringence (T)—N. W. Tschoegl. 44, 4615 (1966)

TSCHUIKOW-ROUX, E.
Erratum: Some Comparisons of the Classical RRK and the RRKM Theoretical Rate Formulations (T)—D. W. Placzek, B. S. Rabinovitch, G. Z. Whitten, and E. Tschuikow-Roux. [43, 4071 (1965)] 44, 3646 (1966)

TSUCHIDA, T.
Magnetic Characteristics of $ZrNi_5$ and $HfNi_5$ and Some Lanthanide–Nickel Compounds Having the $Th_7Ni_3$ Structure (E)—F. Kissell, T. Tsuchida, and W. E. Wallace. 44, 4651(L) (1966)

TSUKUDA, Masao
Mechanism of the Benzene Formation in the Mercury-Photosensitized Reaction of Acetylene (E)—Masao Tsukuda and Shoji Shida. 44, 3133(L) (1966)

TUAN, Debbie Fu-Tai
Improvement of Uncoupled Hartree-Fock Expectation Values for Physical Properties (T)—Debbie Fu-Tai Tuan, S. T. Epstein, and J. O. Hirschfelder. 44, 431 (1966)

TURNER, J. J.
Dioxygen Monofluoride: Infrared Spectrum, Vibrational Potential Function, and Bonding (E)—R. D. Spratley, J. J. Turner, and G. C. Pimentel. 44, 2063 (1966)

TUTTLE, Thomas R., Jr.
ESR Absorption of Cesium and Rubidium Solutions in Ethylamine (E)—Kedma Bar-Eli and T. R. Tuttle, Jr. 44, 114 (1966)
Species and Composition of Dilute Alkali-Metal–Ammonia Solutions (T)—S. Golden, C. Guttman, and T. R. Tuttle, Jr. 44, 3791 (1966)

UHRICH, David L.
Measurement of the Lattice Constant in the Dihydrides of Gadolinium–Yttrium Alloys (E)—David L. Uhrich. 44, 2202(L) (1966)

ULLMAN, Robert
Nuclear Magnetic Relaxation of Polymer Solutions. Side-Chain Motion (T)—Robert Ullman. 44, 1558 (1966)

UMEDA, Jun-ichi
Nuclear Magnetic Resonance Powder Patterns of the Second-Order Nuclear Quadrupole Interaction in Solids with Asymmetric Field Gradient (T/E)—K. Narita, J. Umeda, and H. Kusumoto. 44, 2719 (1966)

UNG, Alban Y.-M.
Optical Studies of the Photolysis of $CO_2$ at 1470 Å (E)—Robert A. Young and Alban Y.-M. Ung. 44, 3038 (1966)
UPRETI, M. C.
Heterogeneous Nucleation of Alkali Halide Crystals from Solution (E/T)—M. C. Upreti and A. G. Walton. 44, 1936 (1966)
UTTERBACK, Nyle G.
Cross Section for Atom Exchange with Charge Transfer in a Molecular Collision (E)—Nyle G. Utterback. 44, 2540(L) (1966)
VALA, Martin T., Jr.
Theoretical Studies of Transannular Interactions. I. Benzene Excimer Fluorescence and the Singlet States of the Paracyclophanes (T)—M. T. Vala, Jr., I. H. Hillier, S. A. Rice, and J. Jortner. 44, 23 (1966)
VALLEAU, J. P.
Transport in Dense Square-Well Fluid Mixtures (T)—J. P. Valleau. 44, 2626 (1966)
VANCE, Dennis W.
Inelastic Collisions of $H_2^+$ and $N_2^+$ Ions with Hydrogen Molecules (E)—Dennis W. Vance and T. L. Bailey. 44, 486 (1966)
VAN DER BLIEK, J. A.
NO–O Chemiluminescent Reaction in a Low-Density Wind Tunnel (E)—F. P. DelGreco, D. Golomb, J. A. van der Bliek, R. A. Cassanova, and R. E. Good. 44, 4349(L) (1966)
VAN DER WIEL, M. J.
Absolute Gross Ionization Cross Sections for Electrons (0.6-12 keV) in Hydrocarbons (E)—B. L. Schram, M. J. van der Wiel, F. J. de Heer, and H. R. Moustafa. 44, 49 (1966)
VAN GEET, Anthony L.
Simultaneous Mutual and Tracer Diffusion (T)—Anthony L. Van Geet and Arthur W. Adamson. 44, 1725(L) (1966)
VAN HOOK, W. Alexander
Vapor Pressures of the Deuterated Ethanes (E/T)—W. Alexander Van Hook. 44, 234 (1966)
VAN STAPELE, R. P.
Ground State of Divalent Co Ions in $Cs_3CoCl_5$ and $Cs_3CoBr_5$ (E)—R. P. van Stapele, H. G. Beljers, P. F. Bongers, and H. Zijlstra. 44, 3719 (1966)
VAN THIEL, M.
Shock Compression of Argon (E/T)—M. van Thiel and B. J. Alder. 44, 1056 (1966)
VAN UITERT, L. G.
Energy Transfer between Rare-Earth Ions (E)—L. G. Van Uitert and L. F. Johnson. 44, 3514 (1966)
VAN WAZER, John R.
Theoretical Interpretation of $^{31}P$ NMR Chemical Shifts. I (T)—John H. Letcher and John R. Van Wazer. 44, 815 (1966)
VAN WILLIGEN, H.
Sign of the $^{13}C$ Isotropic Hyperfine Coupling Constant in $(C_6H_5)_3{}^{13}C$ (E)—H. van Willigen and S. I. Weissman. 44, 420(L) (1966)
VAN WYK, J. A.
Electron Paramagnetic Resonance of Divalent Manganese in Ammonium Chloride (T/E)—A. Forman and J. A. van Wyk. 44, 73 (1966)
VARMA, Ravi
Microwave Spectrum, Internal Barrier, Molecular Structure, and Dipole Moment of Disilanyl Fluoride (E/T)—A. Peter Cox and Ravi Varma. 44, 2619 (1966)
VAUGHAN, Worth E.
Internal-Field Correction for Discrete Relaxation Times (T)—Worth E. Vaughan and Theodore Provder. 44, 1306(L) (1966)
VEIGA, J. dos Santos
EPR Spectra of 2,2′-Bipyride Ion (E/T)—J. dos Santos Veiga, W. L. Reynolds, and J. R. Bolton. 44, 2214(L) (1966)
VEILLARD, A.
Correlation Energy in Atomic Systems. IV. Degeneracy Effects (T)—E. Clementi and A. Veillard. 44, 3050 (1966)
VERDERAME, Frank D.
Infrared Spectra of Crystalline and Matrix-Isolated Carbonyl Sulfide (E/T)—Frank D. Verderame and Eugene R. Nixon. 44, 43 (1966)
VERSTEGEN, J. M. P. J.
Infrared Spectra of HCl in Pure and Impure Noble-Gas Matrices. Absolute Intensities (E)—J. M. P. J. Verstegen, H. Goldring, S. Kimel, and B. Katz. 44, 3216 (1966)
VISTE, Arlen
Molecular Orbital Theory for Octahedral and Tetrahedral Metal Complexes (T)—H. Basch, A. Viste, and H. B. Gray. 44, 10 (1966)
VO, Kim-Phan
Spectroscopic Basis of Carbonyl Photochemistry. I. The Role of Excited-State Geometry in the Photodecomposition of Formaldehyde (T)—E. W. Abrahamson, J. G. F. Littler, and Kim-Phan Vo. 44, 4082 (1966)
VOLAVŠEK, B.
NMR Spectrum of a Nearly Linear Five-Spin System: Hydrogen Bonding in $KH_2F_3$ (T/E)—R. Blinc, Z. Trontelj, and B. Volavšek. 44, 1028 (1966)
VOLPI, G. G.
Ion-Molecule Reactions between $H_3^+$ and Saturated Hydrocarbons (E)—V. Aquilanti and G. G. Volpi. 44, 2307 (1966)
Proton Transfer from $H_3^+$ to Unsaturated Hydrocarbons and to Cyclopropane (E)—V. Aquilanti and G. G. Volpi. 44, 3574 (1966)
Mass-Spectrometric Investigation of the Reactions of Atomic Hydrogen with Acetylene (E)—G. G. Volpi and F. Zocchi. 44, 4010 (1966)
VON BÜNAU, Günther
Rare-Gas-Sensitized Vacuum uv Photolysis of Some Aliphatic Hydrocarbons (E)—Günther von Bünau and Ralph N. Schindler. 44, 420(L) (1966)
VON HOLLE, W. G.
Far-Infrared Spectra of Matrix-Isolated Hydrogen Fluoride (E)—D. W. Robinson and W. G. Von Holle. 44, 410(L) (1966)
WAGNER, E. L.
Chemical Shifts of $^{14}N$ in the NMR Spectra of Linear Triatomic Molecules and Ions (T/E)—J. E. Kent and E. L. Wagner. 44, 3530 (1966)
WAGNER, P.
Effects of Charge Compensation on the Absorption Spectrum of $Yb^{3+}$ in Cadmium Fluoride (E)—E. Banks and P. Wagner. 44, 713 (1966)
WAHL, Arnold C.
Extended Hartree-Fock Wavefunctions: Optimized Valence Configurations for $H_2$ and $Li_2$, Optimized Double Configurations for $F_2$ (T)—G. Das and Arnold C. Wahl. 44, 87 (1966)
Electronic Structure of Diatomic Molecules. III.A. Hartree-Fock Wavefunctions and Energy Quantities for $N_2(X\,^1\Sigma_g^+)$ and $N_2^+(X\,^2\Sigma_g^+, A\,^2\Pi_u, B\,^2\Sigma_u^+)$ Molecular Ions (T)—P. E. Cade, K. D. Sales, and A. C. Wahl. 44, 1973 (1966)
WAIT, S. C., Jr.
Ionic Association in Molten $AgNO_3$ (T)—S. C. Wait, Jr., and A. T. Ward. 44, 448 (1966)
WALDSTEIN, Peter
Oxygen-17 NMR in Polycrystalline $H_2O$ and $D_2O$ Ice (E/T)—Sherman W. Rabideau and Peter Waldstein. 44, 1304(L) (1966)

WALKER, B. F.
Heat-Release Profiles in the High-Temperature Oxidation of Acetylene in Shock Waves (E)—W. C. Gardiner, Jr., W. G. Mallard, K. Morinaga, D. L. Ripley, and B. F. Walker. 44, 4653(L) (1966)

WALKER, James A.
Experimental and Theoretical Studies of Photoionization-Efficiency Curves for $C_2H_2$ and $C_2D_2$ (E/T)—R. Botter, V. H. Dibeler, J. A. Walker, and H. M. Rosenstock. 44, 1271 (1966)
Photoionization Efficiency Curve for $SF_6$ in the Wavelength Region 1050 to 600 Å (E)—Vernon H. Dibeler and James A. Walker. 44, 4405 (1966)

WALKER, S.
Dielectric Studies. IX. Relaxation Processes of Anisole- and Fluorine-Substituted Anisoles (T)—D. B. Farmer, A. Holt, and S. Walker. 44, 4116 (1966)

WALKLEY, John
Reduction Parameters for an Unspecified Intermolecular Potential. A Harmonic-Oscillator Approximation (T)—John Walkley. 44, 2417 (1966)

WALLACE, W. E.
Magnetic Characteristics of $ZrNi_5$ and $HfNi_5$ and Some Lanthanide–Nickel Compounds Having the $Th_7Ni_3$ Structure (E)—F. Kissell, T. Tsuchida, and W. E. Wallace. 44, 4651(L) (1966)

WALRAFEN, G. E.
Raman Spectral Studies of the Effects of Temperature on Water and Electrolyte Solutions (E)—G. E. Walrafen. 44, 1546 (1966)
Raman Spectral Studies of the Effects of Urea and Sucrose on Water Structure (E)—G. E. Walrafen. 44, 3726 (1966)

WALTERS, A. B.
Absorption of Sound Near the Critical Point of the Nitrobenzene–Iso-octane System (E)—A. V. Anantaraman, A. B. Walters, P. D. Edmonds, and C. J. Pings. 44, 2651 (1966)

WALTON, A. G.
Heterogeneous Nucleation of Alkali Halide Crystals from Solution (E/T)—M. C. Upreti and A. G. Walton. 44, 1936 (1966)

WARD, A. T.
Ionic Association in Molten $AgNO_3$ (T)—S. C. Wait, Jr., and A. T. Ward. 44, 448 (1966)

WARE, William R.
Fluorescence Lifetime and Fluorescence Enhancement of Perylene Vapor (E)—William R. Ware and Paul T. Cunningham. 44, 4364(L) (1966)

WASSERMAN, J.
Argon-Oxygen Phase Diagram (E)—C. S. Barrett, L. Meyer, and J. Wasserman. 44, 998 (1966)

WASSERMAN, Judith
Nitrogen-Carbon Monoxide Phase Diagram (E)—Meredith Joan Angwin and Judith Wasserman. 44, 417(L) (1966)

WATSON, Freddie H., Jr.
Ionization of Liquids by Radiation. II. Dependence of the Zero-Field Ion Yield on Temperature and Dielectric Constant (E/T)—A. Hummel, A. O. Allen, and F. H. Watson, Jr. 44, 3431 (1966)

WATT, W. S.
Association of CN in an Expansion Wave (E)—S. H. Bauer and W. S. Watt. 44, 1327 (1966)
On the Decomposition of $Cr(CO)_6$ in Shock Waves (E)—W. S. Watt and S. H. Bauer. 44, 2206(L) (1966)

WATTS, Richard J.
Comments on Fluorescence and Intersystem Crossing in Benzene Vapor (T)—S. J. Strickler and Richard J. Watts. 44, 426(L) (1966)
Fluorescence and Internal Conversion in Naphthalene Vapor (E)—Richard J. Watts and S. J. Strickler. 44, 2423 (1966)

WAUGH, J. S.
Electron Paramagnetic Resonance Study of Solutions of Europium in Liquid Ammonia (E)—D. S. Thompson, E. E. Hazen, and J. S. Waugh. 44, 2954 (1966)
Proton Resonance Study of Molecular Motion and Phase Behavior of Solid $H_2S$ and $H_2Se$ (E)—J. H. Loehlin, P. G. Mennitt, and J. S. Waugh. 44, 3912 (1966)
Erratum: On the Detectability of the Quadratic NMR Electric-Field Effect in Liquids (T)—J. M. Deutch and J. S. Waugh. [43, 2568 (1965)] 44, 4366 (1966)

WEATHERLY, T. L.
Stark Effect and Hyperfine Splitting for Near-Degenerate Levels of an Asymmetric Rotor. Application to $NO_2Cl$ and NOBr (E/T)—D. F. Eagle, T. L. Weatherly, and Q. Williams. 44, 847 (1966)

WEBER, Gunter G.
Calculated Elastic Scattering Cross Sections for the $H^+$–He System (T)—G. G. Weber, N. H. Gordon, and R. B. Bernstein. 44, 2814 (1966)

WEIGERT, F. J.
Anomalous ESR Spectrum Spread for Pentacene Anion and Cation Radicals (E)—K. W. Bowers and F. J. Weigert. 44, 416(L) (1966) Erratum: 44, 3645 (1966)

WEINREB, A.
Delayed Fluorescence of Biphenyl. I. Influence of Temperature and Concentration (E)—E. Loewenthal and A. Weinreb. 44, 2534(L) (1966)

WEINSTOCK, Bernard
On the Structure of Gaseous $XeF_6$ (E)—K. Hedberg, S. H. Peterson, R. R. Ryan, and B. Weinstock. 44, 1726(L) (1966)

WEISSMAN, S. I.
Sign of the $^{13}C$ Isotropic Hyperfine Coupling Constant in $(C_6H_5)_3{}^{13}C$ (E)—H. van Willigen and S. I. Weissman. 44, 420(L) (1966)

WEISSMAN, Stanley
Diffusion Coefficients of the He-Xe System (T)—Stanley Weissman. 44, 428(L) (1966)

WEISSMANN, Mariana
Deuteron Quadrupole Coupling in $D_2O$ (T)—Mariana Weissmann. 44, 422(L) (1966)

WEISZ, S. Z.
Detection of Radiation Damage in Anthracene Crystals by Space-Charge-Limited Current Measurements (E)—S. Z. Weisz, A. Cobas, P. E. Richardson, H. H. Szmant, and S. Trester. 44, 1364 (1966)

WELLMAN, R. E.
Capillary Viscometry: Analysis of Kinetic Energy and Hydrostatic Head Corrections and a More Exact Calculation (E/T)—R. E. Wellman, R. DeWitt, and R. B. Ellis. 44, 3070 (1966)

WELTNER, William, Jr.
ESR of $Cu(NO_3)_2$ and $CuF_2$ Molecules Oriented in Neon and Argon Matrices at 4°K (E)—P. H. Kasai, E. B. Whipple, and W. Weltner, Jr. 44, 2581 (1966)

WESTENBERG, A. A.
Studies of Hydroxyl Radical Kinetics by Quantitative ESR (E)—G. Dixon-Lewis, W. E. Wilson, and A. A. Westenberg. 44, 2877 (1966)

WEXLER, S.
Erratum: Partial Ionization Cross Sections for Noble Gases Bombarded with 0.8-3.75 MeV Protons (E)—S. Wexler. [41, 1714 (1964)] 44, 2221 (1966)
Kinetic Energies of Products of Ion-Molecule Reactions. (E) H. E. Stanton and S. Wexler. 44, 2959 (1966)
WHALLEY, E.
Erratum: Effect of Pressure on the Dielectric Properties of Ice I (E/T)—R. K. Chan, D. W. Davidson, and E. Whalley. [43, 2376 (1965)] 44, 2221 (1966)
WHETSTONE, Clayton N.
Thermal Relaxation Absorption of Sound in the Deuterated Methanes at 26°C (E)—J. C. Gravitt, C. N. Whetstone, and R. T. Lagemann. 44, 70 (1966)
WHIPPLE, Earl B.
ESR of $Cu(NO_3)_2$ and $CuF_2$ Molecules Oriented in Neon and Argon Matrices at 4°K (E)—P. H. Kasai, E. B. Whipple, and W. Weltner, Jr. 44, 2581 (1966)
WHITE, David
Infrared Spectra of HCl, DCl, HBr, and DBr in Solid Rare-Gas Matrices (E/T)—D. E. Mann, N. Acquista, and D. White. 44, 3453 (1966)
WHITE, Donald R.
Erratum: Vibrational Relaxation of $O_2$ in $O_2$-$D_2$ Mixtures and of $H_2$ and $D_2$ (T)—Donald R. White. [42, 447 (1965)] 44, 430 (1966)
WHITE, John M.
Energy Threshold for $D + H_2 \rightarrow DH + H$ Reaction (E)—Aron Kuppermann and John M. White. 44, 4352(L) (1966)
WHITE, R. M.
Measurement of the Relative Abundances and Recoil-Energy Spectra of Fragment Ions Produced as the Initial Consequences of X-Ray Interaction with $CH_3I$, HI, and DI (E)—Thomas A. Carlson and R. Milford White. 44, 4510 (1966)
WHITTEMORE, W. L.
Investigation of the α-Helix–Random-Coil Transition in Polyglutamic Acid by Slow Neutron Scattering (E)—H. Boutin and W. L. Whittemore. 44, 3127(L) (1966)
WHITTEN, G. Z.
Erratum: Some Comparisons of the Classical RRK and the RRKM Theoretical Rate Formulations (T)—D. W. Placzek, B. S. Rabinovitch, G. Z. Whitten, and E. Tschuikow-Roux. [43, 4071 (1965)] 44, 3646 (1966)
WHITTEN, J. L.
Gaussian Lobe Function Expansions of Hartree-Fock Solutions for the First-Row Atoms and Ethylene (T)—J. L. Whitten. 44, 359 (1966)
WIDOM, B.
Random Sequential Addition of Hard Spheres to a Volume (T)—B. Widom. 44, 3888 (1966)
WIGNALL, J. W. G.
Mössbauer Line Broadening in Trivalent Iron Compounds (E)—J. W. G. Wignall. 44, 2462 (1966)
WIJNBERG, L.
Rotational Excitation of Molecules in Collisions with Slow Electrons (T)—L. Wijnberg. 44, 3864 (1966)
WILKEY, D. Dennis
Isomer of $^{130}I$ (E)—D. Dennis Wilkey and John E. Willard. 44, 970 (1966)
WILKINS, Roger L.
Monte Carlo Calculations of Cross Sections of Electron–Positive-Molecular-Ion Dissociative Recombination (T)—Roger L. Wilkins. 44, 1884 (1966)
WILKINSON, George R.
Infrared Spectra of Some $MH_4$ Molecules. (E)—George R. Wilkinson and M. Kent Wilson. 44, 3867 (1966)
WILLARD, John E.
Chemical Reactivity of $I(^2P_{\frac{1}{2}})$ Atoms (E)—Sukumar Aditya and John E. Willard. 44, 418(L) (1966)
ESR Spectra of Gaseous $^{129}I$ and $^{127}I$ (E)—Sukumar Aditya and John E. Willard. 44, 833(L) (1966)
Isomer of $^{130}I$ (E)—D. Dennis Wilkey and John E. Willard. 44, 970 (1966)
WILLETT, Roger D.
Crystal Structure and Optical Properties of $(CH_3)_2NH_2CuCl_3$ (E)—Roger D. Willett. 44, 39 (1966)
WILLIAMS, F. E.
Optical Absorption and Energy Levels of Manganese in ZnS:Mn Crystals (E/T)—H. E. Gumlich, R. L. Pfrogner, J. C. Shaffer, and F. E. Williams. 44, 3929 (1966)
WILLIAMS, Ffrancon
Kinetics of Ionic Processes in the Radiolysis of Liquids. II. Proton Transfer from Cyclohexane Ions to Ethanol (E/T)—James W. Buchanan and Ffrancon Williams. 44, 4377 (1966)
WILLIAMS, H. J.
Preparation and Low-Temperature Magnetic Properties of the Terbium Oxides (E)—J. B. MacChesney, H. J. Williams, R. C. Sherwood, and J. F. Potter. 44, 596 (1966)
WILLIAMS, Quitman
Stark Effect and Hyperfine Splitting for Near-Degenerate Levels of an Asymmetric Rotor. Application to $NO_2Cl$ and NOBr (E/T)—D. F. Eagle, T. L. Weatherly, and Q. Williams. 44, 847 (1966)
WILLIAMS, Richard
Possible Ferroelectric Effects in Liquid Crystals and Related Liquids (E)—Richard Williams and George Heilmeier. 44, 638 (1966)
WILLIAMSON, Ken
Infrared Spectrum of Molten Silver Nitrate (E)—J. P. Devlin, K. Williamson, and G. Austin. 44, 2203(L) (1966)
WILSON, David J.
Quantum Dynamics of Anharmonic Oscillators. I. Simple Examples (T)—E. B. Alterman, C. T. Tahk, and D. J. Wilson. 44, 451 (1966)
WILSON, M. Kent
Vibrational Spectrum of Methyl Arsine (E)—Albert B. Harvey and M. Kent Wilson. 44, 3535 (1966)
Infrared Spectra of Some $MH_4$ Molecules. (E)—George R. Wilkinson and M. Kent Wilson. 44, 3867 (1966)
WILSON, Raymond
ESR Linewidths in Solution. I. Experiments on Anisotropic and Spin-Rotational Effects (E)—Raymond Wilson and Daniel Kivelson. 44, 154 (1966)
ESR Linewidths in Solution. III. Experimental Study of the Solvent Dependence of Anisotropic and Spin-Rotational Effects (E)—Raymond Wilson and Daniel Kivelson. 44, 4440 (1966)
ESR Linewidths in Solution. IV. Experimental Studies of Anisotropic and Spin-Rotational Effects in Copper Complexes (E/T)—Raymond Wilson and Daniel Kivelson. 44, 4445 (1966)
WILSON, W. E.
Studies of Hydroxyl Radical Kinetics by Quantitative ESR (E)—G. Dixon-Lewis, W. E. Wilson, and A. A. Westenberg. 44, 2877 (1966)
WIMS, A. M.
Critical Scattering of the Perfluoroheptane–Iso-octane System (E)—G. W. Brady, D. McIntyre, M. E. Myers, Jr., and A. M. Wims. 44, 2197(L) (1966)
WINDWER, Stanley
Monte Carlo Study of Flexible Branched Macromolecules (T/E)—Lawrence V. Gallacher and Stanley Windwer. 44, 1139 (1966)

WINSLOW, G. H.
Nonstoichiometry in Uranium Dioxide (T)—R. J. Thorn and G. H. Winslow. 44, 2632 (1966)
Oxygen Self-Diffusion in Uranium Dioxide (T)—R. J. Thorn and G. H. Winslow. 44, 2822(L) (1966)
WINTERS, H. F.
Ionic Adsorption and Dissociation Cross Section for Nitrogen (E)—H. F. Winters. 44, 1472 (1966)
WINTERS, Robert E.
Unimolecular Decomposition of Negative Ions Formed from the Transition-Metal Carbonyls of Ni, Fe, Cr, Mo, and W (E/T)—Robert E. Winters and Robert W. Kiser. 44, 1964 (1966)
WITTE, Kathleen
On the Quantum-Mechanical Pair-Correlation Function of $^4$He Gas at Low Temperatures (T)—S. Y. Larsen, K. Witte, and J. E. Kilpatrick. 44, 213 (1966)
WOLF, Fred A.
Computer Calculations of Ion-Molecule Reactions (T)—Fred A. Wolf. 44, 1619 (1966)
WOLFE, Robert
Three-Body Effects in Physical Adsorption (T)—Robert Wolfe and John R. Sams. 44, 2181 (1966)
WOLFGANG, R.
Reactions of Atomic Nitrogen in the Quadruplet and Doublet States (E)—J. Dubrin, C. MacKay, and R. Wolfgang. 44, 2208(L) (1966)
WOLFSBERG, Max
Comparison of Approximate Translational-Vibrational Energy-Transfer Formulas with Exact Classical Calculations (T)—J. Daniel Kelley and Max Wolfsberg. 44, 324 (1966)
WONG, E. Y.
Magnetic-Dipole Intensities and Zeeman Effect in $Cs_2UCl_6$ (E)—D. Johnston, R. Satten, and E. Wong. 44, 687 (1966)
EPR Spectra of $Gd^{3+}$-Doped $LaBr_3$ and $La_2(SO_4)_3 \cdot 9H_2O$ (E/T)—D. R. Johnston, E. Y. Wong, and O. M. Stafsudd. 44, 2693 (1966)
Covalency Effects in $U_5^{4+}$ Halide Complexes (E)—D. R. Johnston, R. A. Satten, C. L. Schreiber, and E. Y. Wong. 44, 3141(L) (1966)
WOOD, D. L.
Erratum: Absorption, Fluorescence, and Zeeman Effect in Emerald (E)—D. L. Wood. [42, 3404 (1965)] 44, 2221 (1966)
WOOD, D. W.
Electrical Properties of Some Charge-Transfer Complexes under High Pressure (E)—T. N. Andersen, D. W. Wood, R. C. Livingston, and H. Eyring. 44, 1259 (1966)
WOOD, H. T.
Numerical Evaluation of Barrier Penetration and Resonance Effects on Phase Shifts (T)—R. B. Bernstein, C. F. Curtiss, S. Imam-Rahajoe, and H. T. Wood. 44, 4072 (1966)
WOOD, Scott E.
Studies of Lithium Hydride Systems. II. Solid-Liquid Equilibrium in the Sodium Chloride-Lithium Hydride System (E)—C. E. Johnson, S. E. Wood, and C. E. Crouthamel. 44, 880 (1966)
Studies of Lithium Hydride Systems. III. Solid-Liquid Equilibrium in the Lithium Bromide-Lithium Hydride and Lithium Iodide-Lithium Hydride Systems (E/T)—C. E. Johnson, S. E. Wood, and C. E. Crouthamel. 44, 884 (1966)
WOODS, D.
Microwave Absorption in Compressed $CO_2$ (E)—L. Frenkel and D. Woods. 44, 2219(L) (1966)
WRAY, Kurt L.
Excitation Studies on the $N_2(1+)$ and $N_2^+(1-)$ Systems in Shock-Heated N-$N_2$ Mixtures (E)—Kurt L. Wray. 44, 623 (1966)
WYATT, Robert E.
Theory of the Origin of the Internal-Rotation Barrier in the Ethane Molecule. II (T)—Robert E. Wyatt and Robert G. Parr. 44, 1529 (1966)
YAMADERA, Reizo
Erratum: Normal Vibration of Polyacylonitrile and Deuterated Polyacrylonitriles (E/T)—Reizo Yamadera. [41, 1233 (1964)] 44, 2222 (1966)
YANG, John Y.
On the Thermal-Spike Model of Low LET Radiolysis (E)—John Y. Yang and John G. Burr. 44, 1307(L) (1966)
YARIS, Robert
Comment on "On Derivations of the Uncertainty Principle" (T)—Robert Yaris. 44, 425(L) (1966)
Perturbationlike Theory without $\phi_0$ (T)—Robert Yaris. 44, 3894 (1966)
YARNELL, C. F.
Temperature and Pressure Dependence of the Elastic Constants of Ammonium Bromide (E)—C. W. Garland and C. F. Yarnell. 44, 1112 (1966)
Order-Disorder Phenomena. IV. Ultrasonic Attenuation near the Lambda Point in Ammonium Chloride (E)—C. W. Garland and C. F. Yarnell. 44, 3678 (1966)
YATES, John T., Jr.
Kinetics of Desorption of the $\beta$-Nitrogen States Chemisorbed on Tungsten (E)—T. E. Madey and John T. Yates, Jr. 44, 1675 (1966)
YATES, Robert E.
Dissociation Energy of $F_2(g)$ Obtained from the Study of Gas Flow of Intermediate Pressures Through an Orifice (T/E)—R. E. Yates, J. A. Blauer, M. A. Greenbaum, and M. Farber. 44, 498 (1966)
YERANOS, Walter A.
Reciprocal Mean for the Semiempirical Evaluation of Resonance Integrals (T)—Walter A. Yeranos. 44, 2207(L) (1966)
YOKOTA, Toshio
Electronic Spectra and Structures of Tropone and Heptafulvene (T)—Kōzō Inuzuka and Toshio Yokota. 44, 911 (1966)
YOSHIDA, Masakazu
Photoionization by Argon Resonance Lines (E)—Masakazu Yoshida and Ikuzo Tanaka. 44, 494 (1966)
YOUDELIS, W.
Structure of Alpha GeTe (E)—J. Goldak, C. S. Barrett, D. Innes, and W. Youdelis. 44, 3323 (1966)
YOUNG, Charles E.
Energy Distribution Among Products of Exothermic Reactions. II. Repulsive, Mixed, and Attractive Energy Release (T)—P. J. Kuntz, E. M. Nemeth, J. C. Polanyi, S. D. Rosner, and C. E. Young. 44, 1168 (1966)
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**Optical Properties of Polystyrene in the Vacuum Ultraviolet (E)—J. G. Carter, T. M. Jelinek, R. N. Hamm, and R. D. Birkhoff. 44, 2266 (1966)**

Absorption Spectra of the Solvated Electron in Polar Liquids: Dependence on Temperature and Composition of Mixtures (E)—Shigeyoshi Arai and Myran C. Sauer, Jr. 44, 2297 (1966)

Optical Absorption of Cobalt in Manganese Fluoride (E)—R. F. Blunt. 44, 2317 (1966)

**Molecular Ions in Radiation Chemistry. II. Aromatic-Hydrocarbon Cations in $CCl_4$ at 77°K (E)—Tadamasa Shida and William H. Hamill. 44, 2375 (1966)**

Isotope Effects on Franck-Condon Factors. VI. Pressure-Broadened Absorption Intensities of the Schumann-Runge Bands of $^{16}O_2$ and $^{18}O_2$ (E)—M. Halmann. 44, 2406 (1966)

**Erratum: Influence of Hydrostatic Pressure upon Hydroxy and Methoxy Isomers of Substituted Anthracenes and Naphthacene (E)—J. M. McKelvey and A. D. King, Jr. [43, 3178 (1965)] 44, 2542 (1966)**

**Low-Lying Pi-Sigma Transition in the Spectrum of Norbornadiene (E)—M. B. Robin and N. A. Kuebler. 44, 2664 (1966)**

**Absorption and Emission Spectra of the Perylene Dimer (E)—J. Ferguson. 44, 2677 (1966)**

EPR Spectra of $Gd^{3+}$-Doped $LaBr_3$ and $La_2(SO_4)_3 \cdot 9H_2O$ (E/T)—D. R. Johnston, E. Y. Wong, and O. M. Stafsudd. 44, 2693 (1966)

**Rotational Analysis of Some Bands of the Triplet ← Singlet Transition in Formaldehyde (E)—W. T. Raynes. 44, 2755 (1966)**

**Some Properties of the Quintet-State Carbon Atom (T)—Sheng Hsien Lin. 44, 2810 (1966)**

**Ultraviolet Absorption Spectrum of the Allyl Free Radical in Irradiated Polyethylene (E)—D. M. Bodily and M. Dole. 44, 2821(L) (1966)**

Matrix-Isolation Study of the Infrared and Ultraviolet Spectra of the Free Radical CNN (E)—Dolphus E. Milligan and Marilyn E. Jacox. 44, 2850 (1966)

Concentration Broadening and Oscillator Strengths in Pr:$LaCl_3$ (E/T)—E. Dorman. 44, 2910 (1966)

Generation of Sound Waves in Liquids Accompanying Two-Photon Absorption (E/T)—P. M. Rentzepis and Yoh-Han Pao. 44, 2931 (1966)

Absorption, Photoionization, and Fluorescence of $CO_2$ (E)—G. R. Cook, P. H. Metzger, and M. Ogawa. 44, 2935 (1966)

**Electric Field Spectra (E)—N. J. Bridge, D. A. Haner, and D. A. Dows. 44, 3128(L) (1966)**

Covalency Effects in $U^{4+}$ Halide Complexes (E)—D. R. Johnston, R. A. Satten, C. L. Schreiber, and E. Y. Wong. 44, 3141(L) (1966)

**Postulated Structures Causing the Optical Color Center Bands in Amethyst Quartz (E)—M. Schlesinger and Alvin J. Cohen. 44, 3146(L) (1966)**

Ultraviolet Fluorescent and Absorption Spectra of $S_2$ Isolated in Inert-Gas Matrices (E)—L. Brewer and G. D. Brabson. 44, 3274 (1966)

Some New Applications of the FE Theory to the Spectra of Linear Unsaturated Compounds (T)—S. Olszewski. 44, 3297 (1966)

Solvent Stark Effect and Spectral Shifts (T)—Mario E. Baur and Malcolm Nicol. 44, 3337 (1966)

Mass-Spectrometer and uv Absorption Study of $CHF_3$ Decomposition behind Shock Waves (E)—A. P. Modica and J. E. LaGraff. 44, 3375 (1966)

$^1A_2 \leftarrow {}^1A_1$ Transition of Formaldehyde (T)—J. R. Henderson. 44, 3496 (1966)

Ground State of Divalent Co Ions in $Cs_3CoCl_5$ and $Cs_3CoBr_5$ (E)—R. P. van Stapele, H. G. Beljers, P. F. Bongers, and H. Zijlstra. 44, 3719 (1966)

Optical Absorption and Energy Levels of Manganese in ZnS:Mn Crystals (E/T)—H. E. Gumlich, R. L. Pfrogner, J. C. Shaffer, and F. E. Williams. 44, 3929 (1966)
Crystal-Field Studies of Excited States of Trivalent Neodymium in Yttrium Gallium Garnet and Yttrium Aluminum Garnet (E/T)—J. A. Koningstein. 44, 3957 (1966)
Correlated EPR-Optical Spectra of Potassium in Ethylamine–Ammonia Mixtures (E)—L. R. Dalton, J. D. Rynbrandt, E. M. Hansen, and J. L. Dye. 44, 3969 (1966)
Energy Levels and Crystal-Field Splittings of $Nd^{3+}$ in Yttrium Oxide (E)—N. C. Chang. 44, 4044 (1966)
Electric Quadrupole Transition in the $A\,^1\Pi - X\,^1\Sigma^+$ System of CO (E)—S. G. Tilford and J. D. Simmons. 44, 4145 (1966)
Electronic Absorption Spectra of $Mn^{2+}$, $Fe^{2+}$, and $Co^{2+}$ in Dihydrated Halide Crystals (E/T)—Katheryn E. Lawson. 44, 4159 (1966)
MCD of Simple and Catacondensed Aromatics (E)—John G. Foss and Michael E. McCarville. 44, 4350(L) (1966)
Electronic Absorption Spectra of the Gaseous 3*d* Transition-Metal Dichlorides (E)—C. W. DeKock and C. M. Gruen. 44, 4387 (1966)
Structure in the Photoionization Continuum of $SF_6$ below 630 Å (E)—K. Codling. 44, 4401 (1966)
Absorption Spectrum of $SF_6$ in the Far Ultraviolet by Electron Impact (E)—J. A. Simpson, C. E. Kuyatt, and S. R. Mielczarek. 44, 4403 (1966)
Charge-Transfer Complexes of Carbonyl Cyanide in Gas and Condensed Phases (E)—J. Prochorow and A. Tramer. 44, 4545 (1966)
Magneto-Optical Rotatory Dispersion of Porphyrins and Phthalocyanines (T)—P. J. Stephens, W. Suětaka, and P. N. Schatz. 44, 4592 (1966)
Spectral Shifts in the Absorption Spectra of EDA Complexes in Solution (E)—H. W. Offen and M. S. F. A. Abidi. 44, 4642(L) (1966)

## ACCOMMODATION COEFFICIENTS

Systematics of the Evaporation Coefficient $Al_2O_3$, $Ga_2O_3$, $In_2O_3$ (E)—Richard P. Burns. 44, 3307 (1966)

## ANNOUNCEMENTS

Announcement. 44, 4062 (1966)

## ADSORPTION (See Surface Phenomena)

## APPARATUS AND METHODS

## BEAMS, ATOMIC AND MOLECULAR

Alkali-Atom-Halogen-Molecule Reactions in Molecular Beams; The Spectator Stripping Model (E/T)—R. E. Minturn, S. Datz, and R. L. Becker. 44, 1149 (1966)
Theoretical Investigations of Reactive Collisions in Molecular Beams: $K+CH_3I$ and Related Systems (T)—L. M. Raff and M. Karplus. 44, 1212 (1966)
Detection of Long-Lived Excited States of Molecules by Penning Ionization (E)—V. Čermák. 44, 1318 (1966)
Reactive Scattering in Molecular Beams: Velocity Analysis of KBr Formed in the $K+Br_2$ Reaction (E)—J. H. Birely and D. R. Herschbach. 44, 1690 (1966)
Chemiluminescence in Molecular Beams. Electronic Excitation of Alkali Atoms in Exchange Reactions of Vibrationally Excited Alkali Halides (E)—M. C. Moulton and D. R. Herschbach. 44, 3010 (1966)

## CATALYSIS

Sites for the Dehydrogenation of Formic Acid on Gold (E)—M. A. Bhakta and H. Austin Taylor. 44, 1264 (1966)
Influence of a Few Promoters on the Lattice Parameter and Curie Point of Magnetite (E)—L. C. Ferriera and L. Alberts. 44, 2204(L) (1966)

## CENTRIFUGATION

## CHEMICAL REACTIONS (see Kinetics of Reaction)

## COMBUSTION

## CONDUCTANCE

Electrical Conductivities of Molten Cadmium-Cadmium Halide Solutions (E/T)—L. F. Grantham. 44, 1509 (1966)
Electrical Conductivity and Structure of Aqueous $MgSO_4$ Solutions in the −2°-to-+12° C Range (E/T)—R. A. Horne and D. S. Johnson. 44, 2946 (1966)
Erratum: Polarization Effects in the Ionic Conductivity of Alkali Halide Crystals. II. Current-Time Dependence (E)—A. R. Allnatt, P. W. M. Jacobs, and J. N. Maycock. [43, 2526 (1965)] 44, 3645 (1966)

## CRYSTAL GROWTH

Polymorphism of $LiMO_2$ Compounds and High-Pressure Single-Crystal Synthesis of $LiBO_2$ (E)—M. Marezio and J. P. Remeika. 44, 3348 (1966)

## CRYSTALLINE STATE

Molecular Orbital Theory for Octahedral and Tetrahedral Metal Complexes (T)—H. Basch, A. Viste, and H. B. Gray. 44, 10 (1966)
Theoretical Studies of Transannular Interactions. I. Benzene Excimer Fluorescence and the Singlet States of the Paracyclophanes (T)—M. T. Vala, Jr., I. H. Hillier, S. A. Rice, and J. Jortner. 44, 23 (1966)
Study of the Low-Frequency $OH^-$ Motions of LiOH by Neutron Inelastic Scattering (E)—George J. Safford and Frank J. LoSacco. 44, 345 (1966)
Energy Levels of $Pu^{3+}$ in Lanthanum Trichloride (T/E)—John G. Conway and K. Rajnak. 44, 348 (1966)
Energy of Excimer Luminescence. V. Excimer Fluorescence of Naphthalene and Methylnaphthalenes (T/E)—F. J. Smith, A. T. Armstrong, and S. P. McGlynn. 44, 442 (1966)
Repulsive Interactions and Molecular Rotation in Inert-Gas Lattices (T)—R. L. Armstrong. 44, 530 (1966)
Zeeman Studies of the $^{63}Cu$ Nuclear Quadrupole Resonance in Potassium Dicyanocuprate (I) (E)—Gary L. McKown and Jack D. Graybeal. 44, 610 (1966)
Effects of Charge Compensation on the Absorption Spectrum of $Yb^{3+}$ in Cadmium Fluoride (E)—E. Banks and P. Wagner. 44, 713 (1966)
Hypersensitive Transitions in Rare-Earth Ions (T)—B. R. Judd. 44, 839(L) (1966)
Exciton Impurity States in Molecular Crystals (T)—Shozo Takeno. 44, 853 (1966)
Properties of the Quartic Anharmonic Contribution to the Specific Heat of a Face-Centered Cubic Lattice (T)—W. C. Overton, Jr. 44, 934 (1966)
Infrared Lattice-Vibration Spectra in $NiF_2$, $CoF_2$, and $FeF_2$ (E)—M. Balkanski, P. Moch, and G. Parisot. 44, 940 (1966)

Equation of State, Grüneisen Constant, and Interatomic Forces (T)—C. M. Kachhava and S. C. Saxena. 44, 986 (1966)
Lattice Vibrations of Pyrazine Crystal (E)—Mitsuo Ito and Tadayoshi Shigeoka. 44, 1001 (1966)
Temperature and Pressure Dependence of the Elastic Constants of Ammonium Bromide (E)—C. W. Garland and C. F. Yarnell. 44, 1112 (1966)
Order-Disorder Phenomena. II. Elastic Constants of a Two-Dimensional Ising Model (T)—Rémi Renard and Carl W. Garland. 44, 1125 (1966)
Order-Disorder Phenomena. III. Effect of Temperature and Pressure on the Elastic Constants of Ammonium Chloride (E)—Carl W. Garland and Rémi Renard. 44, 1130 (1966)
Influence of Temperature on the *F*-Center Absorption in Sodium Fluoride (E)—K. Amenu-Kpodo, T. J. Neubert, and W. Youngblade. 44, 1324 (1966)
Low-Frequency Motions and Barrier to Rotation in Phosphonium Iodide (E)—J. J. Rush. 44, 1722(L) (1966)
Electron Traps in Deformed Alkali Halide Crystals (E)—Masamitsu Hirai and Allen B. Scott. 44, 1753 (1966)
Vibronic Coupling in ESR Spectra of Triplet States in Molecules: Temperature Effects (T)—Yves Marechal. 44, 1908 (1966)
Normal Vibrations and Intermolecular Forces of Crystalline Benzene and Naphthalene (T)—Issei Harada and Takehiko Shimanouchi. 44, 2016 (1966)
Piezoelectric Effects in Nuclear-Quadrupole Resonance (E)—E. Rodrigues and M. M. Rodrigues. 44, 2200(L) (1966)
Piezoelectricity in Hexamethylenetetramine (E)—Virgil E. Bottom and Edson Rodrigues. 44, 2201(L) (1966)
EPR Studies of Defect Sites in Thulium Ethylsulfate Crystals (E)—Henry H. Dearman. 44, 2218(L) (1966)
Operator Form for the Linear and Quadratic Jahn-Teller Coupling in Octahedrally Coordinated $E_g$ Electronic States (T)—Robert E. Coffman. 44, 2305 (1966)
Covalency Parameters and the $g$ Factor for $Ni^{2+}$:$KMgF_3$ (T)—Nai Li Huang and E. Šimánek. 44, 2524 (1966)
Conjecture on Resonant Transfer of Vibrational Energy and Radiationless Transitions in the Solid Phase: The Lifetime of Triplet Anthracene (T)—H. Y. Sun, J. Jortner, and S. A. Rice. 44, 2539(L) (1966)
Calculation of the Surface Tension of a Simple-Cubic Crystal According to Two Different Methods (T)—K. S. Yun and G. C. Benson. 44, 2548 (1966)
Direct Radiative Exciton-Exciton Annihilation (T)—R. S. Knox and C. E. Swenberg. 44, 2577 (1966)
Transients of Volume-Controlled Current and of Recombination Radiation in Anthracene (E)—W. Helfrich and W. G. Schneider. 44, 2902 (1966)
Formation and Characterization of Divalent Americium in $CaF_2$ Crystals (E)—N. Edelstein, W. Easley, and R. McLaughlin. 44, 3130(L) (1966)
Postulated Structures Causing the Optical Color Center Bands in Amethyst Quartz (E)—M. Schlesinger and Alvin J. Cohen. 44, 3146(L) (1966)
Vibrational Exciton Splitting, Fermi Resonance, and Crystal Structure of Methyl Iodide (T/E)—Raoul Kopelman. 44, 3547 (1966)
Calculation and Interpretation of the NMR Chemical Shift and Its Pressure Dependence in the Alkali Halide Lattices (T)—D. W. Hafemeister and W. H. Flygare. 44, 3584 (1966)
Magnetic Properties of Lattice Imperfections in Alkali Halide Single Crystals (E/T)—T. W. Adair III, E. J. Sharp, and C. F. Squire. 44, 3650 (1966)
Mobilities of Electrons and Holes in Organic Molecular Solids. Comparison of Band and Hopping Models (T)—R. M. Glaeser and R. Stephen Berry. 44, 3797 (1966)
Proton Resonance Study of Molecular Motion and Phase Behavior of Solid $H_2S$ and $H_2Se$ (E)—J. H. Loehlin, P. G. Mennitt, and J. S. Waugh. 44, 3912 (1966)
Crystal-Field Studies of Excited States of Trivalent Neodymium in Yttrium Gallium Garnet and Yttrium Aluminum Garnet (E/T)—J. A. Koningstein. 44, 3957 (1966)
Exciton Analog of the Peierls Instability of One-Dimensional Metals (T)—R. E. Merrifield. 44, 4005 (1966)
Mechanism of Radiationless Triplet Decay in Aromatic Hydrocarbons and the Magnitude of the Franck-Condon Factors (T)—W. Siebrand. 44, 4055(L) (1966)
Laser-Induced Luminescence and Dissociation in Biphenyl (E)—K. B. Eisenthal, W. L. Peticolas, and K. E. Rieckhoff. 44, 4492 (1966)
Rotational States of a Tetrahedron in a Cubic Crystal Field (T)—Harry F. King and Donald F. Hornig. 44, 4520 (1966)
Van der Waals Coefficients for the Alkali Halides from Optical Data (T)—Fuad Hajj. 44, 4618 (1966)

## CRYSTAL STRUCTURE

Crystal Structure and Optical Properties of $(CH_3)_2NH_2CuCl_3$ (E)—Roger D. Willett. 44, 39 (1966)
Lattice Parameters Between 5° and 298°K and Crystal Structure at 5°K of Cobalt Chloride Dihydrate (E)—Bruno Morosin. 44, 252 (1966)
Crystal Structure by Neutron Diffraction and the Antiferroelectric Phase Transition in Copper Formate Tetrahydrate (E)—K. Okada, M. I. Kay, D. T. Cromer, and I. Almodovar. 44, 1648 (1966)
Relationship Between Magnetic Curie Points and Cell Sizes of Solid Solutions with the Ordered Perovskite Structure (E)—F. S. Galasso, F. C. Douglas, and R. J. Kasper. 44, 1672 (1966)
Crystal Structure of $O_2PtF_6$: A Neutron-Diffraction Study (E/T)—James A. Ibers and Walter C. Hamilton. 44, 1748 (1966)
Influence of a Few Promoters on the Lattice Parameter and Curie Point of Magnetite (E)—L. C. Ferriera and L. Alberts. 44, 2204(L) (1966)
Crystal Structure of Paramagnetic Ludlamite, $Fe_3(PO_4)_2 \cdot 4H_2O$, at 298°K (E)—S. C. Abrahams and J. L. Bernstein. 44, 2223 (1966)
Ferromagnetic and Crystal Structure of Ludlamite, $Fe_3(PO_4)_2 \cdot 4H_2O$, at 4.2°K (E)—S. C. Abrahams. 44, 2230 (1966)
Polyhedral Clathrate Hydrates. XI. Structure of Tetramethylammonium Hydroxide Pentahydrate (E)—R. K. McMullan, T. C. W. Mak, and G. A. Jeffrey. 44, 2338 (1966)
Structure of Cubic Ammonium Fluosilicate: Neutron-Diffraction and Neutron-Inelastic-Scattering Studies (E)—E. O. Schlemper, W. C. Hamilton, and J. J. Rush. 44, 2499 (1966)
High-Pressure Synthesis and Crystal Structure of $\alpha$-$LiAlO_2$ (E)—M. Marezio and J. P. Remeika. 44, 3143(L) (1966)
Structure of Alpha GeTe (E)—J. Goldak, C. S. Barrett, D. Innes, and W. Youdelis. 44, 3323 (1966)
Polymorphism of $LiMO_2$ Compounds and High-Pressure Single-Crystal Synthesis of $LiBO_2$ (E)—M. Marezio and J. P. Remeika. 44, 3348 (1966)
Neutron-Diffraction Study of the Structures of Ferroelectric and Paraelectric Ammonium Sulfate (E)—Elmer O. Schlemper and Walter C. Hamilton. 44, 4498 (1966)
Phase Diagrams of Sodium Tungstate and Sodium Molybdate to 45 kbar (E)—Carl W. F. T. Pistorius. 44, 4532 (1966)

## DETONATION (see also Shock Waves)

DEUTERIUM (see Isotopes)

DIELECTRICS

Possible Ferroelectric Effects in Liquid Crystals and Related Liquids (E)—Richard Williams and George Heilmeier. 44, 638 (1966)
Transient Behavior of Domains in Liquid Crystals (E/T)—George H. Heilmeier. 44, 644 (1966)
Calculation of the Dielectric Constant of a Fluid by Cluster Expansion Methods (T)—D. W. Jepsen. 44, 774 (1966)
Dielectric Relaxation in Liquid *n*-Octyl Iodide (E)—F. I. Mopsik and R. H. Cole. 44, 1015 (1966)
Internal-Field Correction for Discrete Relaxation Times (T)—Worth E. Vaughan and Theodore Provder. 44, 1306(L) (1966)
Solid Rotator Phase in Polar Liquids (T/E)—Krishnaji and Abhai Mansingh. 44, 1590 (1966)
Crystal Structure by Neutron Diffraction and the Antiferroelectric Phase Transition in Copper Formate Tetrahydrate (E)—K. Okada, M. I. Kay, D. T. Cromer, and I. Almodovar. 44, 1648 (1966)
Nuclear Spin–Lattice Relaxation in Ferroelectric Triglycine Sulfate (E)—R. Blinc, G. Lahajnar, M. Pintar, and I. Zupančič. 44, 1784 (1966)
Piezoelectric Effects in Nuclear-Quadrupole Resonance (E)—E. Rodrigues and M. M. Rodrigues. 44, 2200(L) (1966)
Piezoelectricity in Hexamethylenetetramine (E)—Virgil E. Bottom and Edson Rodrigues. 44, 2201(L) (1966)
Erratum: Effect of Pressure on the Dielectric Properties of Ice I (E/T)—R. K. Chan, D. W. Davidson, and E. Whalley. [43, 2376 (1965)] 44, 2221 (1966)
Anisotropy of Polarizability of Polymeric Chains (T)—Richard P. Smith. 44, 2543 (1966)
Rodlike Behavior of Poly(*n*-butyl)isocyanate from Dielectric Measurements (E)—Hyuk Yu, A. J. Bur, and L. J. Fetters. 44, 2568 (1966)
Debye Relaxation in Symmetric-Top–Foreign-Gas Mixtures; Temperature Dependence of Collision Cross Sections (E)—L. Frenkel, S. J. Kryder, and A. A. Maryott. 44, 2610 (1966)
Effect of Radiation Damping on Dispersion (T)—Sheng Hsien Lin and Richard Bersohn. 44, 3768 (1966)
Dielectric Studies. IX. Relaxation Processes of Anisole- and Fluorine-Substituted Anisoles (T)—D. B. Farmer, A. Holt, and S. Walker. 44, 4116 (1966)
Neutron-Diffraction Study of the Structures of Ferroelectric and Paraelectric Ammonium Sulfate (E)—Elmer O. Schlemper and Walter C. Hamilton. 44, 4498 (1966)
Dielectric and Viscous Behavior in the *i*-Amyl Bromide–2-Methylpentane System (E)—D. J. Denney and J. W. Ring. 44, 4621 (1966)

DIFFUSION

Diffusion Coefficients of the He-Xe System (T)—Stanley Weissman. 44, 428(L) (1966)
Atomic View of Surface Self-Diffusion: Tungsten on Tungsten (E)—Gert Ehrlich and F. G. Hudda. 44, 1039 (1966)
Atomic Displacements in One- and Two-Dimensional Diffusion (T)—Gert Ehrlich. 44, 1050 (1966)
Space Charge in Growing Oxide Films. V. Peturbation Coefficients and Second-Order Treatment (T)—A. T. Fromhold, Jr., and E. R. Graf. 44, 1628 (1966)
Simultaneous Mutual and Tracer Diffusion (T)—Anthony L. Van Geet and Arthur W. Adamson. 44, 1725(L) (1966)
Self-Diffusion in Dense Fluids (T)—Frank H. Stillinger, Jr., and Raymond J. Suplinskas. 44, 2432 (1966)
Nonstoichiometry in Uranium Dioxide (T)—R. J. Thorn and G. H. Winslow. 44, 2632 (1966)
Comment: Ternary Diffusion Described by Intrinsic Diffusion Coefficients (T)—E. L. Cussler, Jr. 44, 2829(L) (1966)
Optical Study of Copper Diffusion in Cadmium Sulfide Single Crystals (E/T)—Whalun Szeto and G. A. Somorjai. 44, 3490 (1966)
On Nachtrieb's $T_m/T$ Law for Diffusion in Solids under Pressure and Its Relation to Simon's Melting Equation (T)—Eliezer Rapoport. 44, 3581 (1966)
NMR Studies of the Pressure Dependence of Self-Diffusion in Four Organic Solids (E)—J. E. Anderson and W. P. Slichter. 44, 3647 (1966)
Diffusion in Organic Crystals. II. Lattice and Subgrain-Boundary Diffusion (E)—P. J. Reucroft, H. K. Kevorkian, and M. M. Labes. 44, 4416 (1966)

DIPOLE MOMENT

Microwave Spectrum of Silver Chloride (E)—Lawrence C. Krisher and Wilfred G. Norris. 44, 391 (1966)
Effect of Quenching of Polarizations in Polar Diatomic Molecules on Nuclear-Quadrupole Coupling, Its Vibrational Dependence, and Molecular Dipole Moments (T)—H. W. de Wijn. 44, 810 (1966)
Stark Effect and Hyperfine Splitting for Near-Degenerate Levels of an Asymmetric Rotor. Application to $NO_2Cl$ and NOBr (E/T)—D. F. Eagle, T. L. Weatherly, and Q. Williams. 44, 847 (1966)
Microwave Spectra, Dipole Moments, Structure, and Ring Puckering Vibration of Cyclobutyl Chloride and Cyclobutyl Fluoride (E)—Hyunyong Kim and William D. Gwinn. 44, 865 (1966)
Microwave Spectrum of Methylazide (E)—William M. Salathiel and R. F. Curl, Jr. 44, 1288 (1966)
Microwave Spectrum, Dipole Moment, and Ring-Puckering Vibration of Vinylene Carbonate (E)—K. L. Dorris, C. O. Britt, and J. E. Boggs. 44, 1352 (1966)
Microwave Spectrum, Internal Barrier, Molecular Structure, and Dipole Moment of Disilanyl Fluoride (E/T)—A. Peter Cox and Ravi Varma. 44, 2619 (1966)
Dipole Moment Function and Vibration-Rotation Matrix Elements for CO (T)—Lee A. Young and W. James Eachus. 44, 4195 (1966)

EFFUSION

ELASTICITY

Temperature and Pressure Dependence of the Elastic Constants of Ammonium Bromide (E)—C. W. Garland and C. F. Yarnell. 44, 1112 (1966)

ELECTRICAL PROPERTIES

Theoretical Estimation of the Conductivity of Different Periodic DNA Models (T)—J. Ladik, G. Biczó, and G. Elek. 44, 483 (1966)
Electrical Properties of Some Charge-Transfer Complexes under High Pressure (E)—T. N. Andersen, D. W. Wood, R. C. Livingston, and H. Eyring. 44, 1259 (1966)
Detection of Radiation Damage in Anthracene Crystals by Space-Charge-Limited Current Measurements (E)—S. Z. Weisz, A. Cobas, P. E. Richardson, H. H. Szmant, and S. Trester. 44, 1364 (1966)
Electric, Magnetic, and Magnetic Resonance Properties of the Nonstoichiometric Sodium-Vanadium Bronzes (E)—M. J. Sienko and J. B. Sohn. 44, 1369 (1966)

**Transients of Volume-Controlled Current and of Recombination Radiation in Anthracene (E)—W. Helfrich and W. G. Schneider. 44, 2902 (1966)**

Electrical Resistance of Dilute Solutions of Hydrogen in Palladium (E/T)—J. W. Simons and Ted B. Flanagan. 44, 3486 (1966)

Erratum: Polarization Effects in the Ionic Conductivity of Alkali Halide Crystals. II. Current-Time Dependence (E) —A. R. Allnatt, P. W. M. Jacobs, and J. N. Maycock. [43, 2526 (1965)] 44, 3645 (1966)

**On the Non-Hecht Pulse-Height-Voltage Behavior of Anthracene (E)—Gloria W. Sage. 44, 3685 (1966)**

Electrical Conduction by Oxygen Ions in Cerium Oxide (E) —E. L. Holverson and C. J. Kevane. 44, 3692 (1966)

Mobilities of Electrons and Holes in Organic Molecular Solids. Comparison of Band and Hopping Models (T)— R. M. Glaeser and R. Stephen Berry. 44, 3797 (1966)

## ELECTROCHEMISTRY

Multicomponent Polyelectrolyte Solutions. Part III. Determination of Activity of KCl in Potassium Polyvinylsulfonate Solutions by Use of a Cation-Sensitive Glass Electrode (E)—Nobuhise Imai and Henryk Eisenberg. 44, 130 (1966)

**Multicomponent Polyelectrolyte Solutions. Part IV. Second Virial Coefficient in Mixed Polyvinylsulfonate KCl Systems Near the Θ Temperature (E)—Henryk Eisenberg. 44, 137 (1966)**

Proton Tunneling in the Hydrogen-Evolution Reaction (T) —J. O'M. Bockris and Dennis B. Matthews. 44, 298 (1966)

Scintillations and Energy Transfer in Argon-Nitrogen Mixtures (E)—Harvey A. Schultz. 44, 377 (1966)

Dielectric Relaxation in the Electric Double Layer (T/E)— J. O'M. Bockris, E. Gileadi, and K. Müller. 44, 1445 (1966)

Raman Spectral Studies of the Effects of Temperature on Water and Electrolyte Solutions (E)—G. E. Walrafen. 44, 1546 (1966)

Comment on the Collective-Coordinate Treatment of Electrolytes (T)—K. B. Eisenthal and W. G. McMillan. 44, 2542(L) (1966)

On the Nature of Paired Vacancy in Molten Electrolytes (T) —Dilip Kumar Majumdar. 44, 3632 (1966)

Electric Polarization of Solutions of Rodlike Polyelectrolytes (T)—John P. McTague and Julian H. Gibbs. 44, 4295 (1966)

## ELECTRON AFFINITY

## ELECTRON DIFFRACTION

Calculation of the Average Structure of Ethylene (T)—Kozo Kuchitsu. 44, 906 (1966)

Molecular Structures of Gaseous Hexabromo- and *ortho*-Dibromobenzene as Determined by Electron Diffraction (E)—Tor G. Strand. 44, 1611 (1966)

On the Structure of Gaseous $XeF_6$ (E)—K. Hedberg, S. H. Peterson, R. R. Ryan, and B. Weinstock. 44, 1726(L) (1966)

Molecular Structure of $CCl_3NO_2$ by Electron Diffraction (E) —R. E. Knudsen, C. F. George, and J. Karle. 44, 2334 (1966)

Molecular Structure of Gaseous Hexachloro- and 1,2,4,5-Tetrachlorobenzene as Determined by Electron Diffraction (E)—T. G. Strand and H. L. Cox, Jr. 44, 2426 (1966)

Adsorption of Carbon Monoxide on a Tungsten (110) Surface (E)—J. W. May and L. H. Germer. 44, 2895 (1966)

Low-Energy Electron Diffraction Study of Molybdenum (110) Surfaces (E)—T. W. Haas and A. G. Jackson. 44, 2921 (1966)

**Effects of Electron Correlation in X-Ray and Electron Diffraction. III. Experimental Electron–Electron Distribution Functions (T/E)—R. M. Gavin, Jr., and L. S. Bartell. 44, 3687 (1966)**

Surface Debye Temperatures of the (100), (111), and (110) Faces of Platinum (E/T)—H. B. Lyon and G. A. Somorjai. 44, 3707 (1966)

## ELECTRON MICROSCOPY

## ELECTRON PARAMAGNETIC RESONANCE

Electron Paramagnetic Resonance of Divalent Manganese in Ammonium Chloride (T/E)—A. Forman and J. A. van Wyk. 44, 73 (1966)

Hyperfine Coupling Constants of 2,2-Bis-*p*-nitrophenyl-1-picrylhydrazyl (E/T)—J. S. Chalmers and Y. W. Kim. 44, 112 (1966)

**ESR Absorption of Cesium and Rubidium Solutions in Ethylamine (E)—Kedma Bar-Eli and T. R. Tuttle, Jr. 44, 114 (1966)**

ESR Linewidths in Solution. I. Experiments on Anisotropic and Spin-Rotational Effects (E)—Raymond Wilson and Daniel Kivelson. 44, 154 (1966)

ESR Linewidths in Solution. II. Analysis of Spin-Rotational Relaxation Data (T)—P. W. Atkins and Daniel Kivelson. 44, 169 (1966)

Anomalous ESR Spectrum Spread for Pentacene Anion and Cation Radicals (E)—K. W. Bowers and F. J. Weigert. 44, 416(L) (1966) Erratum: 44, 3645 (1966)

On the Photochemistry of Substituted Anthraquinones (E)— Henry H. Dearman and Alice Chan. 44, 416(L) (1966)

Sign of the $^{13}C$ Isotropic Hyperfine Coupling Constant in $(C_6H_5)_3{}^{13}C$ (E)—H. van Willigen and S. I. Weissman. 44, 420(L) (1966)

ESR Spectrum of FOO (E)—Richard W. Fessenden and Robert H. Schuler. 44, 434 (1966)

**Electron Paramagnetic Resonance Studies of Photoselected Triplet Molecules. I. Phenoxazine (E)—J.-M. Lhoste, A. Haug, and M. Ptak. 44, 648 (1966)**

Electron Paramagnetic Resonance Studies of Photoselected Triplet Molecules. II. Coronene and Phenanthrene (E)— J.-M. Lhoste, A. Haug, and M. Ptak. 44, 654 (1966)

Electron Spin Resonance Studies of γ-Irradiated Ferroelectric Methylammonium Alum Crystals (E)—Roger P. Kohin and Paul G. Nadeau. 44, 691 (1966)

Spin-Lattice Relaxation in Some Rare-Earth Trichlorides (E)—B. W. Mangum and R. P. Hudson. 44, 704 (1966)

ESR Spectra of Gaseous $^{129}I$ and $^{127}I$ (E)—Sukumar Aditya and John E. Willard. 44, 833(L) (1966)

Electron Spin Relaxation in Solvated Manganese (II) Ion Solutions (E/T)—B. B. Garrett and L. O. Morgan. 44, 890 (1966)

Electron Spin Resonance Linewidths of Manganese (II) Ions in Concentrated Aqueous Solutions (T/E)—C. C. Hinckley and L. O. Morgan. 44, 898 (1966)

Paramagnetic Resonance Study of Liquids during Photolysis: Hydrogen Peroxide and Alcohols (E)—Ralph Livingston and Henry Zeldes. 44, 1245 (1966)

Electric, Magnetic, and Magnetic Resonance Properties of the Nonstoichiometric Sodium-Vanadium Bronzes (E)— M. J. Sienko and J. B. Sohn. 44, 1369 (1966)

Method of "Magnetophotoselection" of the Lowest Excited Triplet State of Aromatic Molecules (E)—M. A. El-Sayed and Seymour Siegel. 44, 1416 (1966)

Electron Paramagnetic Resonance of Oxygen on ZnO and Ultraviolet-Irradiated MgO (E/T)—Jack H. Lunsford and John P. Jayne. 44, 1487 (1966)

Study of CO Radicals on Magnesium Oxide with Electron Paramagnetic Resonance Techniques (E/T)—Jack H. Lunsford and John P. Jayne. 44, 1492 (1966)

Ag (I) and Ag (III) from Solvated Ag (II) by Radiation-Chemical Conversion in γ-Irradiated Solutions at 77°K (E)—L. Shields. 44, 1685 (1966)

Use of $^{17}O$ in an ESR Study of Oxygen Chemisorption on Some Alkaline-Earth Oxides (E)—A. J. Tench and R. L. Nelson. 44, 1714(L) (1966)

Use of $O_2$ for ESR Calibration for Quantitative Measurement of Gas Concentrations (E)—K. M. Evenson and D. S. Burch. 44, 1715(L) (1966)

Paramagnetic Resonance Absorption in Tetrakis(pyridine) Copper (II) Peroxydisulfate (E)—Harry G. Hecht and John P. Frazier III. 44, 1718(L) (1966)

Electron Spin Resonance Study of Radical Pairs Trapped in X-Irradiated Single Crystals of Dimethylglyoxime-O,O-$d_2$, Glyoxime, and Methylglyoxime at Liquid-Nitrogen Temperature (E)—Yukio Kurita and Michio Kashiwagi. 44, 1727 (1966)

Motional Narrowing in One-Dimensional Triplet-Exciton Systems (T)—Zoltán G. Soos. 44, 1729 (1966)

Optical and Paramagnetic Properties of Iron Centers in Quartz (E)—Gerhard Lehmann and Walter J. Moore. 44, 1741 (1966)

Carbon Dioxide as an Electron Trap in 3-Methylpentane at 77°K (E)—Philip M. Johnson and A. C. Albrecht. 44, 1845 (1966)

Vibronic Coupling in ESR Spectra of Triplet States in Molecules: Temperature Effects (T)—Yves Marechal. 44, 1908 (1966)

Temperature Dependence of ESR Linewidths of Some Nitrobenzene Anion Radicals (E)—Francis Millett and John E. Harriman. 44, 1945 (1966)

Restricted Motion of β Protons of the HOOC–$CH_2$–ĊH–COOH Radical Trapped in Urea Crystals (E/T)—Carlo Corvaja. 44, 1958 (1966)

Line-Shape Analysis in EPR Spectra of Nb(IV) Complexes in Solutions and Glasses (E)—M. Lardon and Hs. H. Günthard. 44, 2010 (1966)

Electron Spin Resonance of the Radical Ions of an Isomeric Alternant and Nonalternant Aromatic Hydrocarbon (E)—I. C. Lewis and L. S. Singer. 44, 2082 (1966)

$^{14}N$ Hyperfine Structure in ESR Spectra of Heterocyclic Anions (E)—J. C. M. Henning. 44, 2139 (1966)

EPR Studies of the $Mo(CN)_8^{3-}$ Ions. The Geometry of the Ions (E)—Robert G. Hayes. 44, 2210(L) (1966)

EPR Spectra of 2,2′-Bipyride Ion (E/T)—J. dos Santos Veiga, W. L. Reynolds, and J. R. Bolton. 44, 2214(L) (1966)

EPR of $Co^{2+}$ in Magnesium Acetate·$4H_2O$ (E)—J. A. Cowen and G. T. Johnston. 44, 2217(L) (1966)

EPR Studies of Defect Sites in Thulium Ethylsulfate Crystals (E)—Henry H. Dearman. 44, 2218(L) (1966)

Observation of Conformational Isomers of the Tetraisopropylnitrobenzene Anion Radical by Electron Spin Resonance Spectroscopy (E)—Ted M. McKinney and David H. Geske. 44, 2277 (1966)

Conformations of the Free Radical in Irradiated α-Aminoisobutyric Acid (E)—Harold C. Box and Harold G. Freund. 44, 2345 (1966)

Magnetic Resonance Studies on Copper (II) Complex Ions in Solution. I: Temperature Dependence of the $^{17}O$ NMR and Copper (II) EPR Linewidths of $Cu(H_2O)_6^{2+}$ (E)—W. B. Lewis, M. Alei, Jr., and L. O. Morgan. 44, 2409 (1966)

ESR of $Cu(NO_3)_2$ and $CuF_2$ Molecules Oriented in Neon and Argon Matrices at 4°K (E)—P. H. Kasai, E. B. Whipple, and W. Weltner, Jr. 44, 2581 (1966)

Study of Triplet-Triplet Transfer by the Method of Magnetophotoselection. II. Concentration Depolarization (E)—Seymour Siegel and Lester Goldstein. 44, 2780 (1966)

Electron Spin Resonance of a Gamma-Irradiated Single Crystal of Barbituric Acid Dihydrate (E/T)—William Bernhard and Wallace Snipes. 44, 2817 (1966)

Electron Spin Resonance of Irradiated Single Crystals of Succinamide (E)—Michio Kashiwagi. 44, 2823(L) (1966)

EPR Spectrum of Gas-Phase Sulfur Atoms (E)—Robert L. Brown. 44, 2827(L) (1966)

Study of the DMSO–TCNE Charge-Transfer Complex and Its Kinetics (E)—F. E. Stewart, M. Eisner, and W. R. Carper. 44, 2866 (1966)

Studies of Hydroxyl Radical Kinetics by Quantitative ESR (E)—G. Dixon-Lewis, W. E. Wilson, and A. A. Westenberg. 44, 2877 (1966)

ESR of the Perinaphthenyl Radical in a Liquid Crystal (E/T)—Sivert H. Glarum and James H. Marshall. 44, 2884 (1966)

Electron Paramagnetic Resonance Study of Solutions of Europium in Liquid Ammonia (E)—D. S. Thompson, E. E. Hazen, and J. S. Waugh. 44, 2954 (1966)

Electron Spin Resonance of a γ-Irradiated Single Crystal of a Hydrogen Peroxide–Urea Addition Compound at 77°K (E)—T. Ichikawa, M. Iwasaki, and K. Kuwata. 44, 2979 (1966)

Electron Spin Resonance of $Cu^{2+}$ Ion in $CdWO_4$, $ZnWO_4$, and $MgWO_4$ Single Crystals (E/T)—Z. Šroubek and K. Ždánský. 44, 3078 (1966)

ESR and Phosphorescence Spectra of the Triplet States of Phenyl *s*-Triazines and Phenyl Benzenes. (E/T)—J. S. Brinen, J. G. Koren, and W. G. Hodgson. 44, 3095 (1966)

Cooperative Exciton States in Molecular Crystals (T)—Joshua Jortner and Stuart A. Rice. 44, 3364 (1966)

Paramagnetic Resonance Studies of Bonding in $[CrCl_5(H_2O)]^{2-}$ (T/E)—B. B. Garrett, K. DeArmond, and H. S. Gutowsky. 44, 3393 (1966)

Nuclear Hyperfine Coupling Constants of Diphenyl Picryl Hydrazyl (E/T)—Y. W. Kim and J. S. Chalmers. 44, 3591 (1966)

Main-Chain Scission and ESR Spectra of Irradiated Polytetrafluoroethylene Oxide (E)—P. Barnaba, D. Cordischi, A. Delle Site, and A. Mele. 44, 3672 (1966)

Ground State of Divalent Co Ions in $Cs_3CoCl_5$ and $Cs_3CoBr_5$ (E)—R. P. van Stapele, H. G. Beljers, P. F. Bongers, and H. Zijlstra. 44, 3719 (1966)

Correlated EPR-Optical Spectra of Potassium in Ethylamine–Ammonia Mixtures (E)—L. R. Dalton, J. D. Rynbrandt, E. M. Hansen, and J. L. Dye. 44, 3969 (1966)

Quantitative Observation of Slow and Fast Exchange in EPR Spectra of Organic Free Radicals (E)—T. A. Miller, R. N. Adams, and P. M. Richards. 44, 4022 (1966)

Electron Spin Resonance Studies of Chromium Nitrosyl Complexes (E/T)—J. Danon, H. Panepucci, and A. A. Misetich. 44, 4154 (1966)

Electron Spin Resonance Spectra of the Radical Anions of Several 1,3-Dienes (E/T)—Donald H. Levy and Rollie J. Myers. 44, 4177 (1966)

Electron Spin Resonance of Parabenzosemiquinone-$^{17}O$ (E)—B. L. Silver, Z. Luz, and C. Eden. 44, 4258 (1966)

EPR Study of the Dimerization of Wurster's Blue Perchlorate in Solution (E)—A. Kawamori, A. Honda, N. Joo, K. Suzuki, and Y. Ooshika. 44, 4363(L) (1966)

Sign of the $^{17}O$ Hyperfine Coupling Constant in Fremy's Salt (E)—Z. Luz, B. L. Silver, and C. Eden. 44, 4421 (1966)

ESR Linewidths in Solution. III. Experimental Study of the Solvent Dependence of Anisotropic and Spin-Rotational Effects (E)—Raymond Wilson and Daniel Kivelson. 44, 4440 (1966)

ESR Linewidths in Solution. IV. Experimental Studies of Anisotropic and Spin-Rotational Effects in Copper Complexes (E/T)—Raymond Wilson and Daniel Kivelson. 44, 4445 (1966)

$^{13}C$ Hyperfine Splittings in the Electron Spin Resonance Spectra of HCO and FCO (E/T)—E. L. Cochran, F. J. Adrian, and V. A. Bowers. 44, 4626 (1966)

Electron Spin Resonance Linewidths—Magnetic-Field Correction (T)—Jerome I. Kaplan. 44, 4630 (1966)

Magnetic Resonances in Microwave-Discharged Gases by Double-Tuning Cavity Resonator (E)—T. Hada, M. Kimura, S. Hattori, and Z. Kuri. 44, 4637(L) (1966)

## ELECTROPHORESIS

## EMISSION SPECTRA

Electronic-Relaxation Processes in Acetone (E)—Raymond F. Borkman and David R. Kearns. 44, 945 (1966)

Observations on the Yellow Nitrogen Afterglow Bands at Low Pressure and the Radiative Lifetimes of the $B\,^3\Pi_g$ and $A\,^3\Sigma_u^+$ States of Nitrogen (E)—W. Brennen. 44, 1793 (1966)

On the Decomposition of $Cr(CO)_6$ in Shock Waves (E)—W. S. Watt and S. H. Bauer. 44, 2206(L) (1966)

Application of the Franck-Condon Principle to Molecular Excitation by Collision with Excited Atoms and Molecules (E)—W. W. Robertson. 44, 2456 (1966)

Absorption and Emission Spectra of the Perylene Dimer (E)—J. Ferguson. 44, 2677 (1966)

Electronic Structure of the $MnO_4^-$, $CrO_4^{2-}$, and $VO_4^{3-}$ Ions from the Metal *K* X-Ray Spectra (E)—P. E. Best. 44, 3248 (1966)

On the Nonconfirmation of the Dual Emission Properties of Biphenylene (E)—Robin M. Hochstrasser and Robert D. McAlpine. 44, 3325 (1966)

Primary and Afterglow Emission from Low-Temperature Gaseous Nitrogen Excited by Fast Electrons (E)—Daniel I. Sebacher. 44, 4131 (1966)

Phosphotescence of $K_3Co(CN)_6$ (E)—Maurizio Mingardi and Gerald B. Porter. 44, 4354(L) (1966)

## ENERGY TRANSFER

Comparison of Approximate Translational-Vibrational Energy-Transfer Formulas with Exact Classical Calculations (T)—J. Daniel Kelley and Max Wolfsberg. 44, 324 (1966)

Erratum: Vibrational Relaxation of $O_2$ in $O_2$-$D_2$ Mixtures and of $H_2$ and $D_2$ (T)—Donald R. White. [42, 447 (1965)] 44, 430 (1966)

Vibrational Relaxation of Diatomic Molecules (T)—Sidney W. Benson and George C. Berend. 44, 470 (1966)

Vibrational Relaxation of Deuterium by a Quantitative Schlieren Method (E)—John H. Kiefer and Robert W. Lutz. 44, 658 (1966)

Vibrational Relaxation of Hydrogen (E)—John H. Kiefer and Robert W. Lutz. 44, 668 (1966)

Energy Transfer in Radiolysis of Rare-Gas-$C_2F_6$ Mixtures (E)—Larry Kevan. 44, 683 (1966)

Importance of Impurities on Vibrational Relaxation Measurements in $N_2$ (E)—Anthony L. Russo. 44, 1305(L) (1966)

Energy Transfer between *p*-Benzoylbenzoate and Europium Ethylenediaminetetraacetate in Water Solution (E)—R. G. Charles, E. P. Riedel, and P. G. Haverlack. 44, 1356 (1966)

Resonance Transfer of Electronic Excitation Energy in Solution. I. Influence of Brownian Motion (T)—Jehuda Feitelson. 44, 1497 (1966)

Resonance Transfer of Electronic Excitation Energy in Solution. II. The System *p*-Terphenyl-9-methylanthracene (E)—Jehuda Feitelson. 44, 1500 (1966)

Luminescence and Energy Transfer in Some Aliphatic α-Diketones (E)—H. H. Richtol and F. H. Klappmeier. 44, 1519 (1966)

Measurements of Collisional Energy Transfer between Rotational Energy Levels in CN (E)—K. M. Evenson and H. P. Broida. 44, 1637 (1966)

Hypersonic Velocity Measurements in Liquid Dichloromethane (E)—N. A. Clark, C. E. Moeller, J. A. Bucaro, and E. F. Carome. 44, 2528(L) (1966)

Energy Transfer between Rare-Earth Ions (E)—L. G. Van Uitert and L. F. Johnson. 44, 3514 (1966)

Rate of Interconversion of Electronic and Vibrational Energy (T)—Sheng Hsien Lin. 44, 3759 (1966)

Rotational Excitation of Molecules in Collisions with Slow Electrons (T)—L. Wijnberg. 44, 3864 (1966)

Transfer of $N_2$ Vibrational Energy to Potassium (E)—Walter L. Starr and Thomas M. Shaw. 44, 4181 (1966)

Vibrational and Rotational Excitation of Diatomic Molecules. Two-Dimensional Model (T)—Sidney W. Benson and George C. Berend. 44, 4247 (1966)

Sudden Approximation Applied to Rotational Excitation of Molecules by Atoms. II. Scattering of Polar Diatomics (T)—R. B. Bernstein and K. H. Kramer. 44, 4473 (1966)

## EQUATION OF STATE

Consistent Fourth Virial Coefficient for a Square-Well Potential Gas (T)—G. H. A. Cole. 44, 338 (1966)

Nonadditivity of Intermolecular Forces: Effects on the Third Virial Coefficient (T)—A. E. Sherwood, Andrew G. De Rocco, and E. A. Mason. 44, 2984 (1966)

Second and Third Ordinary and Dielectric Virial Coefficients for Nonpolar Axial Molecules (T)—Howard B. Levine and Donald A. McQuarrie. 44, 3500 (1966)

Fifth Virial Coefficients (T)—J. A. Barker, P. J. Leonard, and A. Pompe. 44, 4206 (1966)

Second Virial Coefficient of Xe at 25°C (E)—C. M. Greenlief and G. Constabaris. 44, 4649(L) (1966)

## ERRATA

Far-Infrared Spectra of HCl Trapped in the β-Quinol Clath-

Erratum: Vibrational Relaxation of $O_2$ in $O_2$-$D_2$ Mixtures and of $H_2$ and $D_2$ (T)—Donald R. White. [42, 447 (1965)] 44, 430 (1966)

Erratum: Nuclear Relaxation Processes in Systems of Two Spins (E)—E. L. Mackor and C. MacLean. [42, 4254 (1965)] 44, 430 (1966)

Erratum: Nuclear Magnetic Shielding Constants and X-Ray Atomic Scattering Factors for Two-, Three-, and Four-Electron Systems by Means of Analytic Hartree-Fock Wavefunctions (T)—M. L. Rustgi and P. Tiwari. [39, 2590 (1963)] 44, 1310 (1966)

Erratum: Partial Pressures in Equilibrium with Group IV Tellurides. III. Germanium Telluride (E)—R. F. Brebrick. [41, 1140 (1965)] 44, 1310 (1966)

Erratum: Partial Ionization Cross Sections for Noble Gases Bombarded with 0.8-3.75 MeV Protons (E)—S. Wexler. [41, 1714 (1964)] 44, 2221 (1966)

Erratum: Absorption, Fluorescence, and Zeeman Effect in Emerald (E)—D. L. Wood. [42, 3404 (1965)] 44, 2221 (1966)
Erratum: Effect of Pressure on the Dielectric Properties of Ice I (E/T)—R. K. Chan, D. W. Davidson, and E. Whalley. [43, 2376 (1965)] 44, 2221 (1966)
Erratum: Normal Vibration of Polyacylonitrile and Deuterated Polyacrylonitriles (E/T)—Reizo Yamadera. [41, 1233 (1964)] 44, 2222 (1966)
Erratum: Random-Walk Model of Chain-Polymer Adsorption at a Surface (T)—Robert J. Rubin. [43, 2392 (1965)] 44, 2222 (1966)
Erratum: Influence of Hydrostatic Pressure upon Hydroxy and Methoxy Isomers of Substituted Anthracenes and Naphthacene (E)—J. M. McKelvey and A. D. King, Jr. [43, 3178 (1965)] 44, 2542 (1966)
Erratum: Metastable State of the Double-Charged Carbon Dioxide Ion (E)—Amos S. Newton and A. F. Sciamanna. [40, 718 (1964)] 44, 2830 (1966)
Erratum: United-Atom Approximation Applied to Argonlike Molecules. II. $PH_2^-$, $PH_3$, and $PH_4^+$ (T)—K. E. Banyard and R. B. Hake. [43, 2684 (1965)] 44, 3150 (1966)
Erratum: Reaction of Oxygen Atoms with Acetaldehyde (E)—H. E. Avery and R. J. Cvetanović. [43, 3727 (1965)] 44, 3150 (1966)
Anomalous ESR Spectrum Spread for Pentacene Anion and Cation Radicals (E)—K. W. Bowers and F. J. Weigert. 44, 416(L) (1966) Erratum: 44, 3645 (1966)
Erratum: Mass-Spectrometric Study of the Reactions of O Atoms with NO and $NO_2$ (E)—Fritz S. Klein and John T. Herron. [41, 1285 (1964)] 44, 3645 (1966)
Erratum: Polarization Effects in the Ionic Conductivity of Alkali Halide Crystals. II. Current-Time Dependence (E)—A. R. Allnatt, P. W. M. Jacobs, and J. N. Maycock. [43, 2526 (1965)] 44, 3645 (1966)
Erratum: Thermal Expansion of a Uranium Monocarbide-Zirconium Monocarbide Solid Solution (E)—Charles P. Kempter and Roy G. Merryman. [43, 1736 (1965)] 44, 3645 (1966)
Erratum: Some Comparisons of the Classical RRK and the RRKM Theoretical Rate Formulations (T)—D. W. Placzek, B. S. Rabinovitch, G. Z. Whitten, and E. Tschuikow-Roux. [43, 4071 (1965)] 44, 3646 (1966)
Ground-State Energy of a Molecule in the Adiabatic Approximation (T)—Saul T. Epstein. 44, 836(L) (1966) Erratum: 44, 4062 (1966)
Erratum: Metastable Transitions in the Mass Spectrum of Benzene (E)—K. R. Jennings. [43, 4176 (1965)] 44, 4365 (1966)
Erratum: Infrared Spectra of Crystalline $C_2H_2$, $C_2HD$, and $C_2D_2$ (E/T)—G. L. Bottger and D. F. Eggers, Jr. [40, 2010 (1964)] 44, 4366 (1966)
Erratum: On the Detectability of the Quadratic NMR Electric-Field Effect in Liquids (T)—J. M. Deutch and J. S. Waugh. [43, 2568 (1965)] 44, 4366 (1966)
Far-Infrared Spectra of HCl Trapped in the β-Quinol Clathrate (E)—S. James Allen, Jr. 44, 394 (1966) Erratum: 44, 4654 (1966)

## FARADAY EFFECT

Faraday Effect of Vibronically Allowed Transitions: $d \rightarrow d$ Transitions in Co(III) Complexes (T)—P. J. Stephens. 44, 4060(L) (1966)
Magneto-Optical Rotatory Dispersion of Porphyrins and Phthalocyanines (T)—P. J. Stephens, W. Suëtaka, and P. N. Schatz. 44, 4592 (1966)

## FIELD EMISSION MICROSCOPY

Atomic View of Surface Self-Diffusion: Tungsten on Tungsten (E)—Gert Ehrlich and F. G. Hudda. 44, 1039 (1966)
Adsorption of Carbon Monoxide on Tungsten. Abundances, Dipole Moments, and Sticking Coefficients (E)—Anthony A. Bell and Robert Gomer. 44, 1065 (1966)
High-Field Electron Emission from Indium Arsenide (E)—S. G. Truxillo, J. C. Blair, N. G. Einspruch, and R. Stratton. 44, 1724(L) (1966)

## FILMS (see Surface Phenomena)

## FLAMES

Mechanism of Chemiluminescence of Atomic-Oxygen-Hydrocarbon Reactions. Formation of the Vaidya Hydrocarbon Flame Band Emitter (E)—Arthur Fontijn. 44, 1702 (1966)
Vibrational Assignment of Anthracene-$d_{10}$ from the Fluorescence and Absorption Spectra (E)—A. Bree, S. Katagiri, and S. R. Suart. 44, 1788 (1966)
Mass-Spectrometric Studies of Reactions in Flames. II. Quantitative Sampling of Free Radicals from One-Atmosphere Flames (E)—Thomas A. Milne and Frank T. Greene. 44, 2444 (1966)

## FLUORESCENCE (see Luminescence)

## FREE RADICALS

Hyperfine Coupling Constants of 2,2-Bis-*p*-nitrophenyl-1-picrylhydrazyl (E/T)—J. S. Chalmers and Y. W. Kim. 44, 112 (1966)
Anomalous ESR Spectrum Spread for Pentacene Anion and Cation Radicals (E)—K. W. Bowers and F. J. Weigert. 44, 416(L) (1966) Erratum: 44, 3645 (1966)
Carbon Dioxide as an Electron Trap in 3-Methylpentane at 77°K (E)—Philip M. Johnson and A. C. Albrecht. 44, 1845 (1966)
Infrared Spectrum of Carbon Dioxide Anion Radical (E)—K. O. Hartman and I. C. Hisatsune. 44, 1913 (1966)
Temperature Dependence of ESR Linewidths of Some Nitrobenzene Anion Radicals (E)—Francis Millett and John E. Harriman. 44, 1945 (1966)
Electron Spin Resonance of the Radical Ions of an Isomeric Alternant and Nonalterant Aromatic Hydrocarbon (E)—I. C. Lewis and L. S. Singer. 44, 2082 (1966)
Observation of Conformational Isomers of the Tetraisopropylnitrobenzene Anion Radical by Electron Spin Resonance Spectroscopy (E)—Ted M. McKinney and David H. Geske. 44, 2277 (1966)
Infrared Detection of Methyl Radical in Solid Argon (E)—W. Lester S. Andrews and George C. Pimentel. 44, 2527(L) (1966)
Electron Spin Resonance Spectra of the Radical Anions of Several 1,3-Dienes (E/T)—Donald H. Levy and Rollie J. Myers. 44, 4177 (1966)

## FREE ROTATION (see Rotation)

## GASES

Consistent Fourth Virial Coefficient for a Square-Well Potential Gas (T)—G. H. A. Cole. 44, 338 (1966)

**Dissociation Energy of $F_2(g)$ Obtained from the Study of Gas Flow of Intermediate Pressures Through an Orifice (T/E)—R. E. Yates, J. A. Blauer, M. A. Greenbaum, and M. Farber. 44, 498 (1966)**

**Thermal Transpiration. Rotational Relaxation Numbers for Nitrogen and Carbon Dioxide (E)—A. P. Malinauskas. 44, 1196 (1966)**

**Electron Attachment and Detachment. I. Pure $O_2$ at Low Energy (E/T)—J. L. Pack and A. V. Phelps. 44, 1870 (1966)**

**Gas–Gas Equilibria (T)—J. de Swaan Arons and G. A. M. Diepen. 44, 2322 (1966)**

**High-Temperature Equation of State (T)—D. A. McQuarrie and J. L. Katz. 44, 2393 (1966)**

**Effect of Oxygen, Nitrogen, and Water in Low-Pressure Hydrogen Discharges (E)—Peter R. Rony and D. N. Hanson. 44, 2536(L) (1966)**

**Debye Relaxation in Symmetric-Top–Foreign-Gas Mixtures; Temperature Dependence of Collision Cross Sections (E)—L. Frenkel, S. J. Kryder, and A. A. Maryott. 44, 2610 (1966)**

**Thermal Conductivity of Argon in the Dense Gaseous and Liquid Regions (E/T)—B. M. Rosenbaum, S. Oshen, and G. Thodos. 44, 2831 (1966)**

**Hornbeck-Molnar Cross Sections for the $n = 3$ States of Helium (E)—M. P. Teter, F. E. Niles, and W. W. Robertson. 44, 3018 (1966)**

**Theory of the Width and Shift of Molecular Spectral Lines in Gases (T)—R. G. Gordon. 44, 3083 (1966)**

**Interaction of Thermal Electrons with Polarizable and Polar Molecules (E/T)—L. G. Christophorou, G. S. Hurst, and A. Hadjiantoniou. 44, 3506 (1966)**

**Effusion from Spherical Orifices. I. Transmission by Molecular Flow (T)—Jimmie G. Edwards and Paul W. Gilles. 44, 4426 (1966)**

**Spin Statistics Isomerization in Methane (T/E)—R. F. Curl, Jr., J. V. V. Kasper, K. S. Pitzer, and K. Sathianandan. 44, 4636(L) (1966)**

## GLASSES

**Optical Spectra of Thallium in Glasses as Related to Crystals and Solutions (E)—Amal K. Ghosh. 44, 535 (1966)**

**Color Centers in Aluminoborate Glass (E)—Amal K. Ghosh. 44, 541 (1966)**

**Entropy Interpretation of Viscosity of $B_2O_3$ (T)—Roger J. Araujo. 44, 1299(L) (1966)**

**Line-Shape Analysis in EPR Spectra of Nb(IV) Complexes in Solutions and Glasses (E)—M. Lardon and Hs. H. Günthard. 44, 2010 (1966)**

**Thermoluminescence in Vitreous Sodium Silicate (E)—C. Bettinali and G. Ferraresso. 44, 2262 (1966)**

**Study of Triplet-Triplet Transfer by the Method of Magneto-photoselection. II. Concentration Depolarization (E)—Seymour Siegel and Lester Goldstein. 44, 2780 (1966)**

**Photoconductivity of Vitreous Zinc 9-Anthroate (E/T)—L. A. du Plessis. 44, 2917 (1966)**

**Energy Levels and Optical Properties of Trapped Electrons in 2-Methyltetrahydrofuran (T)—Kenji Fueki. 44, 3140(L) (1966)**

**Photoconductivity in Rigid Organic Solutions. I. Phenomenology of the Photocurrents (E)—G. E. Johnson and A. C. Albrecht. 44, 3162 (1966)**

**Photoconductivity in Rigid Organic Solutions. II. Initial Rate Studies of Charge-Carrier Production and the Two-Photon Requirement (E)—G. E. Johnson and A. C. Albrecht. 44, 3179 (1966)**

**Two-State Model for the Free Volume of Vitreous $B_2O_3$ (T/E)—P. B. Macedo, W. Capps, and T. A. Litovitz. 44, 3357 (1966)**

## HEAT CAPACITY (see Thermodynamic Properties)

## HIGH PRESSURES

**Effect of High Pressure on the Lattice Parameters of Diamond, Graphite, and Hexagonal Boron Nitride (E)—R. W. Lynch and H. G. Drickamer. 44, 181 (1966)**

**Density and the Metallic State (T)—Karl F. Herzfeld. 44, 429(L) (1966)**

**Fluorescence Spectra of Several Aromatic Crystals under High Pressures (E)—H. W. Offen. 44, 699 (1966)**

**Electrical Properties of Some Charge-Transfer Complexes under High Pressure (E)—T. N. Andersen, D. W. Wood, R. C. Livingston, and H. Eyring. 44, 1259 (1966)**

**Polymorphism and Melting of Ammonium, Thallous, and Silver Nitrates to 45 kbar (E)—Eliezer Rapoport and Carl W. F. T. Pistorius. 44, 1514 (1966)**

**Pressure-Induced Phase Transition in Wurster's Blue Perchlorate (E)—R. C. Hughes, A. W. Merkl, and H. M. McConnell. 44, 1720(L) (1966)**

**Effect of Hydrostatic Pressure on Molecular Rotation in Solids (E)—J. E. Anderson and W. P. Slichter. 44, 1797 (1966)**

**Erratum: Effect of Pressure on the Dielectric Properties of Ice I (E/T)—R. K. Chan, D. W. Davidson, and E. Whalley. [43, 2376 (1965)] 44, 2221 (1966)**

**High-Pressure Synthesis and Crystal Structure of $\alpha$-$LiAlO_2$ (E)—M. Marezio and J. P. Remeika. 44, 3143(L) (1966)**

**Corresponding-States Melting Curve for the Alkali Halides at High Pressure (T)—B. B. Owens. 44, 3144(L) (1966)**

**Polymorphism of $LiMO_2$ Compounds and High-Pressure Single-Crystal Synthesis of $LiBO_2$ (E)—M. Marezio and J. P. Remeika. 44, 3348 (1966)**

**Effect of Pressure on the Curie Temperature and Volume of GdN (E)—D. B. McWhan. 44, 3528 (1966)**

**On Nachtrieb's $T_m/T$ Law for Diffusion in Solids under Pressure and Its Relation to Simon's Melting Equation (T)—Eliezer Rapoport. 44, 3581 (1966)**

**Effects of High Pressures on the Phosphorescence of Naphthalene and Quinoline (E)—H. W. Offen and B. A. Baldwin. 44, 3642(L) (1966)**

**Melting of Iodine at High Pressures (E)—W. Klement, Jr., L. H. Cohen, and G. C. Kennedy. 44, 3697 (1966)**

**Compressibilities of the Molten Alkali Nitrates and Silver Nitrate at High Pressure (E)—B. B. Owens. 44, 3918 (1966)**

**Temperature and Pressure Dependence of the Nuclear Quadrupole Resonance of $^{14}N$ in $(CH_2)_6N_4$ (E/T)—G. A. Matzkanin, T. N. O'Neal, T. A. Scott, and P. J. Haigh. 44, 4171 (1966)**

**Lattice Parameters of Nine Oxides and Sulfides as a Function of Pressure (E)—R. L. Clendenen and H. G. Drickamer. 44, 4223 (1966)**

**Effect of High Pressure on the Compressibilities of Five Alloys (E)—R. L. Clendenen and H. G. Drickamer. 44, 4385 (1966)**

**Phase Diagrams of Sodium Tungstate and Sodium Molybdate to 45 kbar (E)—Carl W. F. T. Pistorius. 44, 4532 (1966)**

## HINDERED ROTATION (see Rotation)

## INFRARED SPECTRA (see Absorption Spectra)

## INTENSITIES OF SPECTRA


Oscillator Strengths for the Werner Bands of $H_2$ (T)—J. C. Browne. 44, 835(L) (1966)

Selection Rules for *R*-Center Absorption (T)—Larry Z. Kennedy. 44, 1746 (1966)

Theoretical Transition Probabilities (T)—S. R. La Paglia and Oktay Sinanoğlu. 44, 1888 (1966)

Transition Probabilities for the Forced Harmonic Oscillator (T)—Charles E. Treanor. 44, 2220(L) (1966)

Oscillator Strengths of the First Negative and Second Positive Systems of Nitrogen (E)—M. Jeunehomme. 44, 2672 (1966)

Infrared Spectra of HCl in Pure and Impure Noble-Gas Matrices. Absolute Intensities (E)—J. M. P. J. Verstegen, H. Goldring, S. Kimel, and B. Katz. 44, 3216 (1966)

Shock-Tube Determination of the $C_2(A\,^3\Pi \rightarrow X\,^3\Pi)$ and $CF(A\,^2\Sigma^+ \rightarrow X\,^2\Pi)$ Band System Oscillator Strengths (E)—J. A. Harrington, A. P. Modica, and D. R. Libby. 44, 3380 (1966)

Excited-State Formation and Destruction in Mixtures of Atomic Oxygen and Nitrogen (E)—Robert A. Young and Graham Black. 44, 3741 (1966)

Oscillator Strengths of the Negative Systems of Oxygen (E)—M. Jeunehomme. 44, 4253 (1966)


## ISOTOPE EFFECTS


Vapor Pressures of the Deuterated Ethanes (E/T)—W. Alexander Van Hook. 44, 234 (1966)

Isotope Effects on Molar Volume and Surface Tension: Simple Theoretical Model and Experimental Data for Hydrocarbons (E/T)—L. S. Bartell and R. R. Roskos. 44, 457 (1966)

Relations Between Vibrational Spectroscopy and the Isotope Effect on Vapor Pressures (T)—R. G. Gordon. 44, 576 (1966)

Preparation of Highly Enriched Carbon-13 by Thermal Diffusion of Methane (E)—W. M. Rutherford and J. M. Keller. 44, 723 (1966)

Fundamental Vibrations and Force Constants in the Partially Deuterated Methyl Halides (E/T)—J. R. Riter, Jr., and D. F. Eggers, Jr. 44, 745 (1966)

On the Surface Tension of Isotopic Mixtures (T)—A. Bellemans and S. Fuks. 44, 834(L) (1966)

Electronic-Relaxation Processes in Acetone (E)—Raymond F. Borkman and David R. Kearns. 44, 945 (1966)

Theory of the Low-Temperature Chromatographic Separation of the Hydrogen Isotopes (T)—James King, Jr., and Sidney W. Benson. 44, 1007 (1966)

Temperature-Independent Factor in Isotopic Rate-Constant Ratios (T)—Carole R. Gatz. 44, 1861 (1966)

Infrared Spectrum of Carbon Dioxide Anion Radical (E)—K. O. Hartman and I. C. Hisatsune. 44, 1913 (1966)

Quantum Statistical Mechanics of Isotope Effects. II. The Surface Tension and Internal Energy (T)—J. M. Deutch, J. L. Kinsey, and I. Oppenheim. 44, 2270 (1966)

Infrared Spectrum, Structure, and Bonding of Lithium Nitroxide, LiON (E)—W. Lester S. Andrews and George C. Pimentel. 44, 2361 (1966)

Isotope Effects on Franck-Condon Factors. V. Electronic Transitions of Isotopic $O_2$, $N_2$, $C_2$, and $H_2$ Molecules (T)—M. Halmann and I. Laulicht. 44, 2398 (1966)

Isotope Effects on Franck-Condon Factors. VI. Pressure-Broadened Absorption Intensities of the Schumann-Runge Bands of $^{16}O_2$ and $^{18}O_2$ (E)—M. Halmann. 44, 2406 (1966)

Microwave Spectrum of Germylacetylene (E)—E. C. Thomas and Victor W. Laurie. 44, 2602 (1966)

Confirmation of the Identification of Dioxygen Monofluoride (E)—Paul N. Noble and George C. Pimentel. 44, 3641(L) (1966)

Isotopic Enrichment in the Photochemistry of CO with the 2062-Å Iodine Line (E/T)—G. Liuti, S. Dondes, and P. Harteck. 44, 4052(L) (1966)

Far-Infrared Spectra of Crystalline Acetylenes $C_2H_2$ and $C_2D_2$ (E)—A. Anderson and Wm. Hayden Smith. 44, 4216 (1966)

Electron Spin Resonance of Parabenzosemiquinone-$^{17}O$ (E)—B. L. Silver, Z. Luz, and C. Eden. 44, 4258 (1966)

Erratum: Infrared Spectra of Crystalline $C_2H_2$, $C_2HD$, and $C_2D_2$ (E/T)—G. L. Bottger and D. F. Eggers, Jr. [40, 2010 (1964)] 44, 4366 (1966)

Experimental Determination of the Disproportionation of Hydrogen Isotopes in Water (E)—L. Friedman and V. J. Shiner, Jr. 44, 4639(L) (1966)

Isotope Shifts and Spin Coupling in the Proton Magnetic Resonance of Deuterated Ammonium Ions (E)—G. Fraenkel, Y. Asahi, H. Batiz-Hernandez, and R. A. Bernheim. 44, 4647(L) (1966)


## ISOTOPES

## KINETICS OF REACTION


Absolute Gross Ionization Cross Sections for Electrons (0.6-12 keV) in Hydrocarbons (E)—B. L. Schram, M. J. van der Wiel, F. J. de Heer, and H. R. Moustafa. 44, 49 (1966)

Calculation of Chemical Reaction Probabilities from Elastic Scattering Data (T)—J. L. J. Rosenfeld and J. Ross. 44, 188 (1966)

Intramolecular Energy Relaxation. Butyl Radical Decomposition at High Pressure (E)—D. W. Placzek, B. S. Rabinovitch, and F. H. Dorer. 44, 279 (1966)

Proton Tunneling in the Hydrogen-Evolution Reaction (T)—J. O'M. Bockris and Dennis B. Matthews. 44, 298 (1966)

Charge Transfer between $N^+$ and O (T)—William J. Kaufmann. 44, 414(L) (1966)

Chemical Reactivity of $I(^2P_{\frac{1}{2}})$ Atoms (E)—Sukumar Aditya and John E. Willard. 44, 418(L) (1966)

Mechanism of Propane Formation by Ethane Photolysis at 1470 Å (E)—Kinichi Obi and Ikuzo Tanaka. 44, 424(L) (1966)

Quantum Dynamics of Anharmonic Oscillators. I. Simple Examples (T)—E. B. Alterman, C. T. Tahk, and D. J. Wilson. 44, 451 (1966)

Reaction between Atomic Oxygen and Nitrous Oxide (E)—E. Stokes Fishburne and R. Edse. 44, 515 (1966)

Nonequilibrium Effects in Recombination-Dissociation Kinetics (T)—H. J. Kolker. 44, 582 (1966)

Excitation Studies on the $N_2(1+)$ and $N_2^+(1-)$ Systems in Shock-Heated N-$N_2$ Mixtures (E)—Kurt L. Wray. 44, 623 (1966)

Quenching of $NO_2$ Fluorescence (E)—G. H. Myers, D. M. Silver, and F. Kaufman. 44, 718 (1966)

Statistical Theory of Chemical Kinetics: Application to Neutral-Atom-Molecule Reactions (T)—P. Pechukas, J. C. Light, and C. Rankin. 44, 794 (1966)

Electronic Excitation Accompanying Charge Exchange (E)—M. Haugh, T. G. Slanger, and K. D. Bayes. 44, 837(L) (1966)

Stochastic Approach to First-Order Chemical Reaction Kinetics (T)—I. G. Darvey and P. J. Staff. 44, 990 (1966)
Theory of Formation of Very Thin Oxide Films on Metals (T/E)—Joseph E. Boggio and Robert C. Plumb. 44, 1081 (1966)
Nonequilibrium Effects in the Kinetics of Gas-Phase Reactions (T)—Neil S. Snider and John Ross. 44, 1087 (1966)
Alkali-Atom-Halogen-Molecule Reactions in Molecular Beams; The Spectator Stripping Model (E/T)—R. E. Minturn, S. Datz, and R. L. Becker. 44, 1149 (1966)
Energy Distribution Among Products of Exothermic Reactions. II. Repulsive, Mixed, and Attractive Energy Release (T)—P. J. Kuntz, E. M. Nemeth, J. C. Polanyi, S. D. Rosner, and C. E. Young. 44, 1168 (1966)
Classical Monte Carlo Analysis of Four-Body Reactions: $K+C_2H_5I$ System (T)—L. M. Raff. 44, 1202 (1966)
Theoretical Investigations of Reactive Collisions in Molecular Beams: $K+CH_3I$ and Related Systems (T)—L. M. Raff and M. Karplus. 44, 1212 (1966)
Sites for the Dehydrogenation of Formic Acid on Gold (E)—M. A. Bhakta and H. Austin Taylor. 44, 1264 (1966)
Shock-Tube Measurement of the Rate of Dissociation of Nitrogen (E)—Stanley Byron. 44, 1378 (1966)
Kinetics of Unimolecular Breakdown. I. The Formal Solution (T)—G. G. Hall and R. D. Levine. 44, 1567 (1966)
Kinetics and Equilibria of the Difluorocarbene Radical Decomposition Behind Shock Waves (E)—A. P. Modica. 44, 1585 (1966)
Computer Calculations of Ion-Molecule Reactions (T)—Fred A. Wolf. 44, 1619 (1966)
Gas-Phase Radiolysis of Cyclobutane (E)—R. D. Doepker and P. Ausloos. 44, 1641 (1966)
Reactive Scattering in Molecular Beams: Velocity Analysis of KBr Formed in the $K+Br_2$ Reaction (E)—J. H. Birely and D. R. Herschbach. 44, 1690 (1966)
Glow-Discharge Shock Tube for Studying Chemiluminescent, Surface-Catalytic, and Gas-Phase Reaction Rates; Temperature Dependence of NO–O and CO–O Chemiluminescence (E)—R. A. Hartunian, W. P. Thompson, and E. W. Hewitt. 44, 1765 (1966)
Primary Processes in Ozone Photolysis (E)—W. B. DeMore and O. F. Raper. 44, 1780 (1966)
Temperature-Independent Factor in Isotopic Rate-Constant Ratios (T)—Carole R. Gatz. 44, 1861 (1966)
Monte Carlo Calculations of Cross Sections of Electron–Positive-Molecular-Ion Dissociative Recombination (T)—Roger L. Wilkins. 44, 1884 (1966)
Gas-Phase Radiolysis of Cyclopentane. Relative Rates of $H_2^-$-Transfer Reactions from Various Hydrocarbons to $C_3H_6^+$ (E)—R. D. Doepker and P. Ausloos. 44, 1951 (1966)
Unimolecular Decomposition of Negative Ions Formed from the Transition-Metal Carbonyls of Ni, Fe, Cr, Mo, and W (E/T)—Robert E. Winters and Robert W. Kiser. 44, 1964 (1966)
Kinetics of Unimolecular Breakdown. II. Time-Dependent Theory (T)—R. D. Levine. 44, 2029 (1966)
Kinetics of Unimolecular Breakdown. IV. The Linear Chain (T)—R. D. Levine. 44, 2035 (1966)
Kinetics of Unimolecular Breakdown. V. Mass-Spectral Patterns (T)—R. D. Levine. 44, 2046 (1966)
Salt Effects in the Reaction of Peroxydisulfate with Thiosulfate (E)—A. Indelli, V. Bartocci, F. Ferranti, and M. G. Lucarelli. 44, 2069 (1966)
Gaseous Thermal Electron Reactions: Attachment to $SF_6$ and $C_7F_{14}$ (E)—Bruce H. Mahan and Charles E. Young. 44, 2192 (1966)
Reactions of Atomic Nitrogen in the Quadruplet and Doublet States (E)—J. Dubrin, C. MacKay, and R. Wolfgang. 44, 2208(L) (1966)
Pulsed-Mass-Spectrometric Study of the Bimolecular Formation of $N_3^+$ (E)—M. C. Cress, P. M. Becker, and F. W. Lampe. 44, 2212(L) (1966)
Ionic Reactions in Gaseous Monosilane (E)—G. G. Hess and F. W. Lampe. 44, 2257 (1966)
Shock-Tube Study of the Hydrogen–Oxygen Reaction. II. Role of Exchange Initiation (T/E)—Dennis L. Ripley and W. C. Gardiner, Jr. 44, 2285 (1966)
Ion-Molecule Reactions between $H_3^+$ and Saturated Hydrocarbons (E)—V. Aquilanti and G. G. Volpi. 44, 2307 (1966)
Thermal Decomposition of Azomethane. II. The Unimolecular Reaction on the Quantum Harmonic Model (T)—W. Forst. 44, 2349 (1966)
Molecular Ions in Radiation Chemistry. I. Formation of Aromatic-Amine Cations in $CCl_4$ by Resonance Charge Transfer at 77°K (E)—Tadamasa Shida and William H. Hamill. 44, 2369 (1966)
Oxygen and Nitric Oxide Quenching of Positronium in Liquids (E)—John Lee and G. J. Celitans. 44, 2506 (1966)
Some Novel Energy-Pooling Processes Involving $O_2(^1\Delta_g)$ (E)—S. J. Arnold, N. Finlayson, and E. A. Ogryzlo. 44, 2529(L) (1966)
Reactions of Carbon Atoms with $N_2$, $H_2$, and $D_2$ at 4.2°K (E)—Norman G. Moll and Warren E. Thompson. 44, 2684 (1966)
Reactions of Metal Carbonyls with Active Nitrogen (E)—W. R. Brennen and G. B. Kistiakowsky. 44, 2695 (1966)
Kinetics of Rapid Reactions in Liquid Ammonia. The Ammonia–Amide Proton Exchange (E/T)—T. J. Swift, S. B. Marks, and W. G. Sayre. 44, 2797 (1966)
Study of the DMSO–TCNE Charge-Transfer Complex and Its Kinetics (E)—F. E. Stewart, M. Eisner, and W. R. Carper. 44, 2866 (1966)
Studies of Hydroxyl Radical Kinetics by Quantitative ESR (E)—G. Dixon-Lewis, W. E. Wilson, and A. A. Westenberg. 44, 2877 (1966)
Hornbeck-Molnar Cross Sections for the $n=3$ States of Helium (E)—M. P. Teter, F. E. Niles, and W. W. Robertson. 44, 3018 (1966)
Thermal-Energy Ion-Neutral Reaction Rates. III. The Measured Rate Constant for the Reaction $O^+(^4S)+CO_2(^1\Sigma)\rightarrow O_2^+(^2\Pi)+CO(^1\Sigma)$ (E)—F. C. Fehsenfeld, E. E. Ferguson, and A. L. Schmeltekopf. 44, 3022 (1966)
Fast Ion-Molecule Reaction in $CO_2$ (E)—J. F. Paulson, R. L. Mosher, and F. Dale. 44, 3025 (1966)
Mechanism of the Benzene Formation in the Mercury-Photosensitized Reaction of Acetylene (E)—Masao Tsukuda and Shoji Shida. 44, 3133(L) (1966)
Erratum: Reaction of Oxygen Atoms with Acetaldehyde (E)—H. E. Avery and R. J. Cvetanović. [43, 3727 (1965)] 44, 3150 (1966)
Kinetics of the Reaction $D+H_2=HD+H$ (E)—B. A. Ridley, W. R. Schulz, and D. J. Le Roy. 44, 3344 (1966)
Mass-Spectrometer and uv Absorption Study of $CHF_3$ Decomposition behind Shock Waves (E)—A. P. Modica and J. E. LaGraff. 44, 3375 (1966)
Kinetics of Unimolecular Breakdown. VII. Statisticomechanical Aspects (T)—R. D. Levine. 44, 3597 (1966)
Kinetic Isotope Effects in the Reaction between Atomic Chlorine and Molecular Hydrogen. Tunnel Coefficients of the Hydrogen Atom through an Asymmetric Potential Barrier (E/T)—Avigdor Persky and Fritz S. Klein. 44, 3617 (1966)

Erratum: Mass-Spectrometric Study of the Reactions of O Atoms with NO and $NO_2$ (E)—Fritz S. Klein and John T. Herron. [41, 1285 (1964)] 44, 3645 (1966)

Erratum: Some Comparisons of the Classical RRK and the RRKM Theoretical Rate Formulations (T)—D. W. Placzek, B. S. Rabinovitch, G. Z. Whitten, and E. Tschuikow-Roux. [43, 4071 (1965)] 44, 3646 (1966)

Mass-Spectral Studies of Kinetics behind Shock Waves. III. Thermal Dissociation of Fluorine (E)—R. W. Diesen. 44, 3662 (1966)

Excited-State Formation and Destruction in Mixtures of Atomic Oxygen and Nitrogen (E)—Robert A. Young and Graham Black. 44, 3741 (1966)

Measurement of Atomic Concentrations in Discharged Nitrogen, Oxygen, and Hydrogen (E)—Lorne Elias. 44, 3810 (1966)

Mass-Spectrometric Investigation of the Reactions of Atomic Hydrogen with Acetylene (E)—G. G. Volpi and F. Zocchi. 44, 4010 (1966)

Quantitative Observation of Slow and Fast Exchange in EPR Spectra of Organic Free Radicals (E)—T. A. Miller, R. N. Adams, and P. M. Richards. 44, 4022 (1966)

Thermal Energy Ion–Neutral Reaction Rates. I. Some Reactions of Helium Ions (E)—F. C. Fehsenfeld, A. L. Schmeltekopf, P. D. Goldan, H. I. Schiff, and E. E. Ferguson. 44, 4087 (1966)

Thermal Energy Ion–Neutral Reaction Rates. II. Some Reactions of Ionospheric Interest (E)—P. D. Goldan, A. L. Schmeltekopf, F. C. Fehsenfeld, H. I. Schiff, and E. E. Ferguson. 44, 4095 (1966)

Thermal Decomposition of Hexamethylethane, 2,2,3-Trimethylbutane, and Neopentane in a Single-Pulse Shock Tube (E)—Wing Tsang. 44, 4283 (1966)

Decomposition of Tropylium and Substituted Tropylium Ions (E)—K. R. Jennings and J. H. Futrell. 44, 4315 (1966)

NO–O Chemiluminescent Reaction in a Low-Density Wind Tunnel (E)—F. P. DelGreco, D. Golomb, J. A. van der Bliek, R. A. Cassanova, and R. E. Good. 44, 4349(L) (1966)

Energy Threshold for $D + H_2 \rightarrow DH + H$ Reaction (E)—Aron Kuppermann and John M. White. 44, 4352(L) (1966)

Thermal Energy Ion–Neutral Reaction Rates. IV. Nitrogen Ion Charge-Transfer Reactions with CO and $CO_2$ (E)—F. C. Fehsenfeld, A. L. Schmeltekopf, and E. E. Ferguson. 44, 4537 (1966)

Hauffe-Ilschner Transition during Thermal Oxidation (T)—A. T. Fromhold, Jr., and Earl L. Cook. 44, 4564 (1966)

Reaction of $HD^+$ with Rare Gases (E)—M. A. Berta, B. Y. Ellis, and W. S. Koski. 44, 4612 (1966)

Spin Statistics Isomerization in Methane (T/E)—R. F. Curl, Jr., J. V. V. Kasper, K. S. Pitzer, and K. Sathianandan. 44, 4636(L) (1966)

## LARGE MOLECULES (see Polymers)

## LIGHT SCATTERING

Interpretation of Brillouin Spectra (T)—Raymond D. Mountain. 44, 832(L) (1966)

Light-Scattering Study of Tobacco Mosaic Virus Solutions When Subjected to Electric Fields (E)—B. R. Jennings and H. G. Jerrard. 44, 1291 (1966)

Rayleigh and Brillouin Scattering in Liquids: The Landau-Placzek Ratio (E/T)—Herman Z. Cummins and Robert W. Gammon. 44, 2785 (1966)

Thermodynamic and Conformational Properties of Polystyrene. I. Light-Scattering Studies on Dilute Solutions of Linear Polystyrenes (E/T)—G. C. Berry. 44, 4550 (1966)

## LIQUIDS

Ionic Association in Molten $AgNO_3$ (T)—S. C. Wait, Jr., and A. T. Ward. 44, 448 (1966)

Possible Ferroelectric Effects in Liquid Crystals and Related Liquids (E)—Richard Williams and George Heilmeier. 44, 638 (1966)

Transient Behavior of Domains in Liquid Crystals (E/T)—George H. Heilmeier. 44, 644 (1966)

Shock Compression of Argon (E/T)—M. van Thiel and B. J. Alder. 44, 1056 (1966)

Significant-Structure Theory Applied to Water and Heavy Water (T)—Mu Shik Jhon, J. Grosh, T. Ree, and H. Eyring. 44, 1465 (1966)

Raman Spectral Studies of the Effects of Temperature on Water and Electrolyte Solutions (E)—G. E. Walrafen. 44, 1546 (1966)

Atomic Structure and Correlation in Liquid Binaries by X-Ray and Neutron Diffraction with Application to NaK (E/T)—E. H. Henninger, R. C. Buschert, and L. Heaton. 44, 1758 (1966)

Infrared Spectrum of Molten Silver Nitrate (E)—J. P. Devlin, K. Williamson, and G. Austin. 44, 2203(L) (1966)

Shear Relaxation Times of Simple Fluids (T)—Raymond D. Mountain and Robert Zwanzig. 44, 2777 (1966)

Rayleigh and Brillouin Scattering in Liquids: The Landau-Placzek Ratio (E/T)—Herman Z. Cummins and Robert W. Gammon. 44, 2785 (1966)

Thermal Conductivity of Argon in the Dense Gaseous and Liquid Regions (E/T)—B. M. Rosenbaum, S. Oshen, and G. Thodos. 44, 2831 (1966)

Structure of Sodium Aluminosilicate Melts Containing at Least 50 mole % $SiO_2$ at 1500°C (E)—E. F. Riebling. 44, 2857 (1966)

Generation of Sound Waves in Liquids Accompanying Two-Photon Absorption (E/T)—P. M. Rentzepis and Yoh-Han Pao. 44, 2931 (1966)

Spectroscopic Evidence for Rotation-Translation Coupling in Liquid State: Infrared Absorption of HD in Liquid Argon (E/T)—Gerald W. Holleman and George E. Ewing. 44, 3121 (1966)

New Method in the Kinetics of Classical Dense Fluids (T)—R. P. Futrelle. 44, 3240 (1966)

Raman Spectral Studies of the Effects of Urea and Sucrose on Water Structure (E)—G. E. Walrafen. 44, 3726 (1966)

Erratum: On the Detectability of the Quadratic NMR Electric-Field Effect in Liquids (T)—J. M. Deutch and J. S. Waugh. [43, 2568 (1965)] 44, 4366 (1966)

Do Exciton States Exist in the Liquid Phase? (T)—Stuart A. Rice and Joshua Jortner. 44, 4470 (1966)

## LUMINESCENCE

Electronic Spectrum of (2, 2)Paracyclophane. II (E)—Arza Ron and O. Schnepp. 44, 19 (1966)

Fluorescent Efficiency of Energetic Electrons in the 3914-Å Band (T)—S. Frankenthal, O. P. Manley, and Y. M. Treve. 44, 257 (1966)

Scintillations and Energy Transfer in Argon-Nitrogen Mixtures (E)—Harvey A. Schultz. 44, 377 (1966)

Comments on Fluorescence and Intersystem Crossing in Benzene Vapor (T)—S. J. Strickler and Richard J. Watts. 44, 426(L) (1966)

Energy of Excimer Luminescence. V. Excimer Fluorescence of Naphthalene and Methylnaphthalenes (T/E)—F. J. Smith, A. T. Armstrong, and S. P. McGlynn. 44, 442 (1966)

Fluorescence Spectra of Several Aromatic Crystals under High Pressures (E)—H. W. Offen. 44, 699 (1966)
Quenching of $NO_2$ Fluorescence (E)—G. H. Myers, D. M. Silver, and F. Kaufman. 44, 718 (1966)
Luminescence Processes Generated by Ionizing Radiation in KI and KI:Tl (E)—R. Gilbert Kaufman and Wayne B. Hadley. 44, 1311 (1966)
Energy Transfer between *p*-Benzoylbenzoate and Europium Ethylenediaminetetraacetate in Water Solution (E)—R. G. Charles, E. P. Riedel, and P. G. Haverlack. 44, 1356 (1966)
Resonance Transfer of Electronic Excitation Energy in Solution. I. Influence of Brownian Motion (T)—Jehuda Feitelson. 44, 1497 (1966)
Resonance Transfer of Electronic Excitation Energy in Solution. II. The System *p*-Terphenyl-9-methylanthracene (E)—Jehuda Feitelson. 44, 1500 (1966)
Luminescence and Energy Transfer in Some Aliphatic α-Diketones (E)—H. H. Richtol and F. H. Klappmeier. 44, 1519 (1966)
Polarization Studies on Recombination Luminescence in a Rigid Organic Solution (E)—W. M. McClain and A. C. Albrecht. 44, 1594 (1966)
Mechanism of Chemiluminescence of Atomic-Oxygen-Hydrocarbon Reactions. Formation of the Vaidya Hydrocarbon Flame Band Emitter (E)—Arthur Fontijn. 44, 1702 (1966)
Radiationless Transitions in Xanthene Dyes (E)—L. Lindqvist and G. W. Lundeen. 44, 1711(L) (1966)
Glow-Discharge Shock Tube for Studying Chemiluminescent, Surface-Catalytic, and Gas-Phase Reaction Rates; Temperature Dependence of NO–O and CO–O Chemiluminescence (E)—R. A. Hartunian, W. P. Thompson, and E. W. Hewitt. 44, 1765 (1966)
Radiationless Deactivation of the Fluorescent State of Substituted Anthracenes (E)—R. G. Bennett and P. J. McCartin. 44, 1969 (1966)
Use of Triplet-State Energy Transfer in Obtaining Singlet-Triplet Absorption in Organic Crystals (E)—Noboru Hirota. 44, 2199(L) (1966)
Erratum: Absorption, Fluorescence, and Zeeman Effect in Emerald (E)—D. L. Wood. [42, 3404 (1965)] 44, 2221 (1966)
Thermoluminescence in Vitreous Sodium Silicate (E)—C. Bettinali and G. Ferraresso. 44, 2262 (1966)
Fluorescence and Internal Conversion in Naphthalene Vapor (E)—Richard J. Watts and S. J. Strickler. 44, 2423 (1966)
Delayed Fluorescence of Biphenyl. I. Influence of Temperature and Concentration (E)—E. Loewenthal and A. Weinreb. 44, 2534(L) (1966)
Conjecture on Resonant Transfer of Vibrational Energy and Radiationless Transitions in the Solid Phase: The Lifetime of Triplet Anthracene (T)—H. Y. Sun, J. Jortner, and S. A. Rice. 44, 2539(L) (1966)
$Ba(B_{0.5}Ta_{0.5})O_3$ Ordered Perovskite-Type Compounds, Possible New Laser Host Materials (E)—F. S. Galasso, G. K. Layden, and D. E. Flinchbaugh. 44, 2703 (1966)
Wavelength Dependence of the Quenching of Iodine Fluorescence (E/T)—Jeffrey I. Steinfeld. 44, 2740 (1966)
Concentration Broadening and Oscillator Strengths in $Pr:LaCl_3$ (E/T)—E. Dorman. 44, 2910 (1966)
Absorption, Photoionization, and Fluorescence of $CO_2$ (E)—G. R. Cook, P. H. Metzger, and M. Ogawa. 44, 2935 (1966)
Chemiluminescence in Molecular Beams. Electronic Excitation of Alkali Atoms in Exchange Reactions of Vibrationally Excited Alkali Halides (E)—M. C. Moulton and D. R. Herschbach. 44, 3010 (1966)
ESR and Phosphorescence Spectra of the Triplet States of Phenyl *s*-Triazines and Phenyl Benzenes. (E/T)—J. S. Brinen, J. G. Koren, and W. G. Hodgson. 44, 3095 (1966)
Ultraviolet Fluorescent and Absorption Spectra of $S_2$ Isolated in Inert-Gas Matrices (E)—L. Brewer and G. D. Brabson. 44, 3274 (1966)
Luminescence of Rare-Earth-Activated Cadmium Sulfide (E/T)—W. W. Anderson. 44, 3283 (1966)
On the Nonconfirmation of the Dual Emission Properties of Biphenylene (E)—Robin M. Hochstrasser and Robert D. McAlpine. 44, 3325 (1966)
Energy Transfer between Rare-Earth Ions (E)—L. G. Van Uitert and L. F. Johnson. 44, 3514 (1966)
Effects of High Pressures on the Phosphorescence of Naphthalene and Quinoline (E)—H. W. Offen and B. A. Baldwin. 44, 3642(L) (1966)
Host-Crystal Effects on the Mechanism of the $\pi, \pi^*$ Phosphorescence. II. N-Heterocyclics (E)—N. K. Chaudhuri and M. A. El-Sayed. 44, 3728 (1966)
Delayed Luminescence of Organic Mixed Crystals (E)—T. N. Misra and S. P. McGlynn. 44, 3816 (1966)
Energy Levels and Crystal-Field Splittings of $Nd^{3+}$ in Yttrium Oxide (E)—N. C. Chang. 44, 4044 (1966)
Mechanism of Radiationless Triplet Decay in Aromatic Hydrocarbons and the Magnitude of the Franck-Condon Factors (T)—W. Siebrand. 44, 4055(L) (1966)
Thermal Quenching of Cr(III) Luminescence (E)—William Targos and Leslie S. Forster. 44, 4342 (1966)
NO–O Chemiluminescent Reaction in a Low-Density Wind Tunnel (E)—F. P. DelGreco, D. Golomb, J. A. van der Blick, R. A. Cassanova, and R. E. Good. 44, 4349(L) (1966)
Phosphotescence of $K_3Co(CN)_6$ (E)—Maurizio Mingardi and Gerald B. Porter. 44, 4354(L) (1966)
Fluorescence Lifetime and Fluorescence Enhancement of Perylene Vapor (E)—William R. Ware and Paul T. Cunningham. 44, 4364(L) (1966)
Laser-Induced Luminescence and Dissociation in Biphenyl (E)—K. B. Eisenthal, W. L. Peticolas, and K. E. Rieckhoff. 44, 4492 (1966)
Charge-Transfer Complexes of Carbonyl Cyanide in Gas and Condensed Phases (E)—J. Prochorow and A. Tramer. 44, 4545 (1966)
Thermoluminescence of Unirradiated MgO and $Mg(OH)_2$ (E)—C. Bettinali and G. Ferraresso. 44, 4646(L) (1966)

MAGNETIC COOLING

MAGNETIC RESONANCE (see Electron Paramagnetic Resonance; Nuclear Magnetic Resonance)

MAGNETIC SUSCEPTIBILITIES

Preparation and Low-Temperature Magnetic Properties of the Terbium Oxides (E)—J. B. MacChesney, H. J. Williams, R. C. Sherwood, and J. F. Potter. 44, 596 (1966)
Electric, Magnetic, and Magnetic Resonance Properties of the Nonstoichiometric Sodium-Vanadium Bronzes (E)—M. J. Sienko and J. B. Sohn. 44, 1369 (1966)
Relationship Between Magnetic Curie Points and Cell Sizes of Solid Solutions with the Ordered Perovskite Structure (E)—F. S. Galasso, F. C. Douglas, and R. J. Kasper. 44, 1672 (1966)
Influence of a Few Promoters on the Lattice Parameter and Curie Point of Magnetite (E)—L. C. Ferriera and L. Alberts. 44, 2204(L) (1966)
Magnetic Susceptibilities of Solutions of Potassium in Molten Potassium Chloride (E)—Max Bettman. 44, 3254 (1966)
Effect of Pressure on the Curie Temperature and Volume of GdN (E)—D. B. McWhan. 44, 3528 (1966)

Magnetic Properties of Lattice Imperfections in Alkali Halide Single Crystals (E/T)—T. W. Adair III, E. J. Sharp, and C. F. Squire. 44, 3650 (1966)

Ground State of Divalent Co Ions in $Cs_3CoCl_5$ and $Cs_3CoBr_5$ (E)—R. P. van Stapele, H. G. Beljers, P. F. Bongers, and H. Zijlstra. 44, 3719 (1966)

Magnetic Characteristics of $ZrNi_5$ and $HfNi_5$ and Some Lanthanide–Nickel Compounds Having the $Th_7Ni_3$ Structure (E)—F. Kissell, T. Tsuchida, and W. E. Wallace. 44, 4651(L) (1966)

## MASS SPECTRA

First Differential Ionization Efficiency Curves for Fragment Ions by Electron Impact (E)—F. H. Dorman. 44, 35 (1966)

Cross Sections for Ionization by Electrons. I. Absolute Ionization Cross Sections of Zn, Cd, and $Te_2$. II. Comparison of Theoretical with Experimental Values for Atoms and Molecules (E/T)—R. F. Pottie. 44, 916 (1966)

Mass-Spectrometric Studies of the Rare Gases Using an Electron Velocity Selector (E)—C. E. Brion, D. C. Frost, and C. A. McDowell. 44, 1034 (1966)

On the Calibration of the Mass Spectrometer for Measurement of Partial Vapor Pressures (T)—E. David Cater and R. J. Thorn. 44, 1342 (1966)

Mass-Spectrometric Determination of the Dissociation Energy of Beryllium Monofluoride (E)—Donald L. Hildenbrand and Edmond Murad. 44, 1524 (1966)

Mass-Spectrometric Study of the Equilibrium between Diatomic and Monoatomic Phosphorus and Dissociation Energy of $P_2$ (E)—Karl A. Gingerich. 44, 1717(L) (1966)

Unimolecular Decomposition of Negative Ions Formed from the Transition-Metal Carbonyls of Ni, Fe, Cr, Mo, and W (E/T)—Robert E. Winters and Robert W. Kiser. 44, 1964 (1966)

Photoionization Mass Spectrometry of NO (E)—R. M. Reese and H. M. Rosenstock. 44, 2007 (1966)

Kinetics of Unimolecular Breakdown. V. Mass-Spectral Patterns (T)—R. D. Levine. 44, 2046 (1966)

Pulsed-Mass-Spectrometric Study of the Bimolecular Formation of $N_3^+$ (E)—M. C. Cress, P. M. Becker, and F. W. Lampe. 44, 2212(L) (1966)

Ionic Reactions in Gaseous Monosilane (E)—G. G. Hess and F. W. Lampe. 44, 2257 (1966)

Ion-Molecule Reactions between $H_3^+$ and Saturated Hydrocarbons (E)—V. Aquilanti and G. G. Volpi. 44, 2307 (1966)

Mass-Spectrometric Studies of Reactions in Flames. II. Quantitative Sampling of Free Radicals from One-Atmosphere Flames (E)—Thomas A. Milne and Frank T. Greene. 44, 2444 (1966)

Dissociation Energy of the Gaseous AlP Molecule (E/T)—G. De Maria, K. A. Gingerich, L. Malaspina, and V. Piacente. 44, 2531(L) (1966)

Erratum: Metastable State of the Double-Charged Carbon Dioxide Ion (E)—Amos S. Newton and A. F. Sciamanna. [40, 718 (1964)] 44, 2830 (1966)

Vaporization Behavior of Europium Dicarbide (E)—Robert E. Gebelt and Harry A. Eick. 44, 2872 (1966)

Kinetic Energies of Products of Ion-Molecule Reactions. (E) H. E. Stanton and S. Wexler. 44, 2959 (1966)

Uranium Monosulfide. III. Thermochemistry, Partial Pressures, and Dissociation Energies of US and $US_2$ (E)—E. D. Cater, E. G. Rauh, and R. J. Thorn. 44, 3106 (1966)

Decomposition Processes and Fragmentation Probabilities of $W(CO)_6$ by Electron Impact (E)—B. Cantone, F. Grasso, and S. Pignataro. 44, 3115 (1966)

Systematics of the Evaporation Coefficient $Al_2O_3$, $Ga_2O_3$, $In_2O_3$ (E)—Richard P. Burns. 44, 3307 (1966)

Mass-Spectrometer and uv Absorption Study of $CHF_3$ Decomposition behind Shock Waves (E)—A. P. Modica and J. E. LaGraff. 44, 3375 (1966)

Proton Transfer from $H_3^+$ to Unsaturated Hydrocarbons and to Cyclopropane (E)—V. Aquilanti and G. G. Volpi. 44, 3574 (1966)

Erratum: Mass-Spectrometric Study of the Reactions of O Atoms with NO and $NO_2$ (E)—Fritz S. Klein and John T. Herron. [41, 1285 (1964)] 44, 3645 (1966)

Mass-Spectral Studies of Kinetics behind Shock Waves. III. Thermal Dissociation of Fluorine (E)—R. W. Diesen. 44, 3662 (1966)

Ion–Molecule Reactions by a Photoionization Mass Spectrometer. I. Propylene and 1,3-Butadiene (E)—I. Koyano, I. Omura, and I. Tanaka. 44, 3850 (1966)

Negative Fragment Ions from Resonance Capture Processes (E)—F. H. Dorman. 44, 3856 (1966)

Electron-Impact Ionization Cross Sections for Atoms (E)—J. L. Cooper, Jr., G. A. Pressley, Jr., and F. E. Stafford. 44, 3946 (1966)

Mass-Spectrometric Investigation of the Reactions of Atomic Hydrogen with Acetylene (E)—G. G. Volpi and F. Zocchi. 44, 4010 (1966)

Metastable-Ion Peak Shapes in Dempster-Type Mass Spectrometers (T/E)—Amos S. Newton. 44, 4015 (1966)

Niobium—$Al_2O_3$ Reactions Yielding Condensed and Volatile Products (E)—L. N. Grossman. 44, 4127 (1966)

Decomposition of Tropylium and Substituted Tropylium Ions (E)—K. R. Jennings and J. H. Futrell. 44, 4315 (1966)

Metastable Peaks in the Mass Spectra of $N_2O$ and $NO_2$ (E)—Amos S. Newton and A. F. Sciamanna. 44, 4327 (1966)

Erratum: Metastable Transitions in the Mass Spectrum of Benzene (E)—K. R. Jennings. [43, 4176 (1965)] 44, 4365 (1966)

Measurement of the Relative Abundances and Recoil-Energy Spectra of Fragment Ions Produced as the Initial Consequences of X-Ray Interaction with $CH_3I$, HI, and DI (E)—Thomas A. Carlson and R. Milford White. 44, 4510 (1966)

Reaction of $HD^+$ with Rare Gases (E)—M. A. Berta, B. Y. Ellis, and W. S. Koski. 44, 4612 (1966)

Partial Ionization Cross Sections of He, Ne, $H_2$, and $CH_4$ for Electrons from 20 to 500 eV (E)—B. Adamczyk, A. J. H. Boerboom, B. L. Schram, and J. Kistemaker. 44, 4640(L) (1966)

## MECHANICS, CLASSICAL

## MECHANICS, QUANTUM

Analysis of Carr-Purcell Spin-Echo NMR Experiments on Multiple-Spin Systems. I. The Effect of Homonuclear Coupling (T)—Adam Allerhand. 44, 1 (1966)

Molecular Orbital Theory for Octahedral and Tetrahedral Metal Complexes (T)—H. Basch, A. Viste, and H. B. Gray. 44, 10 (1966)

Symmetry Rules for Optical Rotation (T)—John A. Schellman. 44, 55 (1966)

Extended Hartree-Fock Wavefunctions: Optimized Valence Configurations for $H_2$ and $Li_2$. Optimized Double Configurations for $F_2$ (T)—G. Das and Arnold C. Wahl. 44, 87 (1966)

Diatomic Forces and Force Constants. I. Errors in the Hellmann-Feynman Method (T)—Margaret Lowe Benston and Bernard Kirtman. 44, 119 (1966)

Diatomic Forces and Force Constants. II. Variation-Perturbation Method (T)—Margaret Lowe Benston and Bernard Kirtman. 44, 126 (1966)

Some Aspects of the Coulomb Hole of the Ground State of $H_3^+$ (T)—William A. Lester, Jr., and Morris Krauss. 44, 207 (1966)

Functional Representation of the Wave Operator (T)—Joseph O. Hirschfelder. 44, 273 (1966)

Electronic Structure of $C_2$ (T)—P. F. Fougere and R. K. Nesbet. 44, 285 (1966)

Energy Levels of $Pu^{3+}$ in Lanthanum Trichloride (T/E)—John G. Conway and K. Rajnak. 44, 348 (1966)

Gaussian Lobe Function Expansions of Hartree-Fock Solutions for the First-Row Atoms and Ethylene (T)—J. L. Whitten. 44, 359 (1966)

Polynomial Radial Functions for Atomic Wavefunctions (T)—B. M. Gimarc. 44, 373 (1966)

Quantum-Mechanical Study of Some Three-Center Two-Electron Systems. I. Energy Calculations (T)—K. E. Banyard and Harrison Shull. 44, 384 (1966)

Charge Transfer between $N^+$ and O (T)—William J. Kaufmann. 44, 414(L) (1966)

Deuteron Quadrupole Coupling in $D_2O$ (T)—Mariana Weissmann. 44, 422(L) (1966)

Comment on "On Derivations of the Uncertainty Principle" (T)—Robert Yaris. 44, 425(L) (1966)

Improvement of Uncoupled Hartree-Fock Expectation Values for Physical Properties (T)—Debbie Fu-Tai Tuan, S. T. Epstein, and J. O. Hirschfelder. 44, 431 (1966)

Approximations to Hartree-Fock Perturbation Theory (T)—P. W. Langhoff, M. Karplus, and R. P. Hurst. 44, 505 (1966)

Application of the Hellmann-Feynman and Virial Theorems to the Theoretical Calculation of Molecular Potential Constants (T)—R. H. Schwendeman. 44, 556 (1966)

Double-Perturbation Treatment of the Ground State of the Hydrogen Molecule (T)—B. Liu, W. D. Lyon, and W. Byers Brown. 44, 562 (1966)

Perturbation Theory of the Constrained Variational Method in Molecular Quantum Mechanics (T)—W. Byers Brown. 44, 567 (1966)

Electronic Bases of Molecular Vibrations. II. Generalized Energy Theorems and the Force Constants of Polyatomic Molecules (T)—Paul Phillipson. 44, 633 (1966)

Hydrogen-Molecule Excited States: $^1\pi_u$ (T)—Stephen Rothenberg and Ernest R. Davidson. 44, 730 (1966)

Ground States of Conjugated Molecules. VII. Compounds Containing Nitrogen and Oxygen (T)—Michael J. S. Dewar and Gerald Jay Gleicher. 44, 759 (1966)

Variation-Perturbation Treatment of Electron Correlation in Molecules (T)—Bernard Kirtman and Daniel R. Decious. 44, 830(L) (1966)

Selection of Molecular Matrix Elements from Atomic Data. II (T)—L. C. Cusachs, J. W. Reynolds, and D. Barnard. 44, 835(L) (1966)

Ground-State Energy of a Molecule in the Adiabatic Approximation (T)—Saul T. Epstein. 44, 836(L) (1966) Erratum: 44, 4062 (1966)

Atomic Integrals with the Magnetic Dipole-Dipole Operator (T)—Murray Geller. 44, 837(L) (1966)

Concerning the Roots of a Polynomial which Contain a Perturbation Parameter (T)—Wm. D. Moseley, Jr. 44, 842(L) (1966)

Electronic Bases of Molecular Vibrations. III. *Ab Initio* Calculations of $H_2^+$ and $H_2$ Force Constants (T)—William R. Ross and Paul Phillipson. 44, 844(L) (1966)

Homonuclear Diatomic One-Electron Eigenfunctions as Basis Sets (T)—R. C. Shapiro, R. C. C. Lao, and J. R. Riter, Jr. 44, 846(L) (1966)

Interpretation of the Chemical Shift of ClF (T)—C. D. Cornwell. 44, 874 (1966)

Applicability of Almost Strongly Orthogonal Geminals in Many-Electron Wavefunctions (T)—Ede Kapuy. 44, 956 (1966)

One-Center-Expansion-Configuration-Interaction Studies on $CH_4$ and $NH_3$ (T)—Ronald M. Rutledge and Antony F. Saturno. 44, 977 (1966)

Reliability of Variational Double-Perturbation Procedure for Molecules (T)—J. C. Y. Chen and S. Ehrenson. 44, 1020 (1966)

New Force Theorem (T)—Margaret Lowe Benston. 44, 1300(L) (1966)

Erratum: Nuclear Magnetic Shielding Constants and X-Ray Atomic Scattering Factors for Two-, Three-, and Four-Electron Systems by Means of Analytic Hartree-Fock Wavefunctions (T)—M. L. Rustgi and P. Tiwari. [39, 2590 (1963)] 44, 1310 (1966)

Theory of the Origin of the Internal-Rotation Barrier in the Ethane Molecule. II (T)—Robert E. Wyatt and Robert G. Parr. 44, 1529 (1966)

Spin Delocalization in the Allyl and Ethyl Radicals (T)—D. Lazdins and M. Karplus. 44, 1600 (1966)

Four-Center Integrals for Slater 1s Orbitals (T)—Peter J. Roberts. 44, 1722(L) (1966)

Continuous Representations in the Statistical Theory of Electronic Energies. The $H_2^+$ Ion (T)—George S. Handler and Sidney Golden. 44, 1812 (1966)

Some Potential-Energy Surfaces on $H_3^+$ Computed with Generalized Gaussian Orbitals (T)—A. G. Pearson, R. D. Poshusta, and J. C. Browne. 44, 1815 (1966)

Constrained-Variation Method in Molecular Quantum Mechanics. Comparison of Different Approaches (T)—D. P. Chong and Yecheskel Rasiel. 44, 1819 (1966)

LCAO-SCF Computations for Hydrogen Peroxide (T)—U. Kaldor and I. Shavitt. 44, 1823 (1966)

Electron Correlation and the Nuclear Spin-Spin Coupling Constant. I. An Alternant Molecular Orbital Description of Nuclear Spin-Spin Coupling (T)—Michael Barfield. 44, 1836 (1966)

LCAO–MO–SCF Calculations on LiH Using Gaussian Basis Set (T)—I. G. Csizmadia. 44, 1849 (1966)

Coriolis Interaction in the $\nu_1$ and $\nu_3$ Fundamentals of Ozone (T/E)—Shepard A. Clough and Francis X. Kneizys. 44, 1855 (1966)

Semiempirical Molecular Orbital Calculations. I. The Electronic Structure of $H_2O$ and $H_2S$ (T)—D. G. Carroll, A. T. Armstrong, and S. P. McGlynn. 44, 1865 (1966)

Many-Electron Theory of Nonclosed-Shell Atoms and Molecules. I. Orbital Wavefunction and Perturbation Theory (T)—Harris J. Silverstone and Oktay Sinanoğlu. 44, 1899 (1966)

Electronic Structure of Diatomic Molecules. III. A. Hartree-Fock Wavefunctions and Energy Quantities for $N_2(X\,^1\Sigma_g^+)$ and $N_2^+(X\,^2\Sigma_g^+, A\,^2\Pi_u, B\,^2\Sigma_u^+)$ Molecular Ions (T)—P. E. Cade, K. D. Sales, and A. C. Wahl. 44, 1973 (1966)

Calculation of the Barrier to Internal Rotation of Ethane (T)—Jerry Goodisman. 44, 2085 (1966)

Comparison of Experimentally Derived and Theoretically Calculated Derivatives of the Energy, Kinetic Energy, and Potential Energy for CO (T)—R. H. Schwendeman. 44, 2115 (1966)

Low-Energy Atomic Collisions. I. The Schrödinger Equation for $H^+$–H (T)—Donald J. Kouri and C. F. Curtiss. 44, 2120 (1966)

On the Variation-Perturbation Method for Excited States (T)—William H. Miller. 44, 2198(L) (1966)

Reciprocal Mean for the Semiempirical Evaluation of Resonance Integrals (T)—Walter A. Yeranos. 44, 2207(L) (1966)

Transition Probabilities for the Forced Harmonic Oscillator (T)—Charles E. Treanor. 44, 2220(L) (1966)

Isotope Effects on Franck-Condon Factors. V. Electronic Transitions of Isotopic $O_2$, $N_2$, $C_2$, and $H_2$ Molecules (T)—M. Halmann and I. Laulicht. 44, 2398 (1966)

*Ab Initio* Calculation of Harmonic Force Constants (T)—David M. Bishop and Milan Randič. 44, 2480 (1966)

Internal Rotation in Completely Asymmetric Molecules. II. Interactions between Vibration and Internal Rotation (T)—C. Richard Quade. 44, 2512 (1966)

Covalency Parameters and the $g$ Factor for $Ni^{2+}$: $KMgF_3$ (T)—Nai Li Huang and E. Šimánek. 44, 2524 (1966)

Ammonio-Group $\beta$-Proton Hyperfine Coupling Constants in $\pi$-Electron Radicals (T)—Raymond C. DuVarney and Roger P. Kohin. 44, 2532(L) (1966)

Single-Center Calculations on the $^2\Pi_u$ Excited State of $H_2^+$ (T)—James R. Hoyland. 44, 2533 (L) (1966)

Reduction of the Fourth-Order Asymmetric-Rotor Hamiltonian (T)—F. X. Kneizys, J. N. Freedman, and S. A. Clough. 44, 2552 (1966)

Franck-Condon Factors for the Ionization of $H_2$ and $D_2$ (T)—Gordon H. Dunn. 44, 2592 (1966)

Rotational Analysis of Some Bands of the Triplet ← Singlet Transition in Formaldehyde (E)—W. T. Raynes. 44, 2755 (1966)

Some Properties of the Quintet-State Carbon Atom (T)—Sheng Hsien Lin. 44, 2810 (1966)

Calculation of Valence States of NO and $NO^+$ (T)—H. Lefebvre-Brion and C. M. Moser. 44, 2951 (1966)

Quantum-Mechanical Potential-Energy Curve for the Lowest $^1\Sigma_u^+$ State of $Hc_2$ (T)—D. R. Scott, E. M. Greenwalt, J. C. Browne, and F. A. Matsen. 44, 2981 (1966)

Semiempirical Treatment of Hindered Rotation in Simple Hydrides and Halosubstituted Ethanelike Molecules (T)—John P. Lowe and Robert G. Parr. 44, 3001 (1966)

Distortional Effects on the Ethane Internal-Rotation Barrier (T)—O. J. Sovers and M. Karplus. 44, 3033 (1966)

Direct Analysis and Improvement of Electron Densities and Wavefunctions by a Perturbation-Variation Method (T)—R. L. Somorjai. 44, 3041 (1966)

Correlation Energy in Atomic Systems. IV. Degeneracy Effects (T)—E. Clementi and A. Veillard. 44, 3050 (1966)

Single-Configuration Open-Shell Calculations for the Boron Isoelectronic Sequence (T)—George H. Brigman and Jeremiah N. Silverman. 44, 3136(L) (1966)

One-Center Expansion of the Coulomb Potential in Terms of Slater-Type Orbitals (T)—P. J. Roberts. 44, 3145(L) (1966)

Erratum: United-Atom Approximation Applied to Argonlike Molecules. II. $PH_2$, $PH_3$, and $PH_4^+$ (T)—K. E. Banyard and R. B. Hake. [43, 2684 (1965)] 44, 3150 (1966)

Relativistic Intermolecular Forces, Moderately Long Range (T)—William J. Meath and Joseph O. Hirschfelder. 44, 3197 (1966)

Long-Range (Retarded) Intermolecular Forces (T)—William J. Meath and Joseph O. Hirschfelder. 44, 3210 (1966)

Electronic Ground State and Wavefunctions for Vanadium Monoxide (T)—K. Douglas Carlson and Carl Moser. 44, 3259 (1966)

Variational Methods and Degenerate Perturbation Theory (T)—Saul T. Epstein. 44, 3266 (1966)

Approximate Self-Consistent Molecular Orbital Theory. III. CNDO Results for $AB_2$ and $AB_3$ Systems (T)—J. A. Pople and G. A. Segal. 44, 3289 (1966)

Some New Applications of the FE Theory to the Spectra of Linear Unsaturated Compounds (T)—S. Olszewski. 44, 3297 (1966)

United-Atom Approximation Applied to Argonlike Molecules. III. HCl and $SiH_4$ (T)—R. B. Hake and K. E. Banyard. 44, 3523 (1966)

Self-Consistent Perturbation Theory. I. General Formulation and Some Applications (T)—G. Diercksen and R. McWeeny. 44, 3554 (1966)

Many-Electron Theory of Nonclosed-Shell Atoms and Molecules. II. Variational Theory (T)—Harris J. Silverstone and Oktay Sinanoğlu. 44, 3608 (1966)

Study of the $H_3^+$ Molecule Using Self-Consistent-Field One-Center Expansion Approximation (T)—Bhairav D. Joshi. 44, 3627 (1966)

Potential Curve for $HeH^+$ (T)—Frank E. Harris. 44, 3636(L) (1966)

Partial Wave Theory of $H_2$: Calculations of $\Sigma_g^+$ States (T)—A. K. Bhatia and A. Temkin. 44, 3656 (1966)

Contribution to the Theory of Alternant Systems (T)—Jaroslav Koutecký. 44, 3702 (1966)

Effect of Radiation Damping on Dispersion (T)—Sheng Hsien Lin and Richard Bersohn. 44, 3768 (1966)

Momentum Eigenfunction for the Ground State of $H_2^+$ (T)—Frederic M. Glaser and Edwin N. Lassettre. 44, 3787 (1966)

Molecular Orbital Studies of the Ground and Low-Lying Excited States of the $HeH^+$ Molecular Ion (T)—H. H. Michels. 44, 3834 (1966)

Perturbationlike Theory without $\phi_0$ (T)—Robert Yaris. 44, 3894 (1966)

On the Exponential Form of Time-Displacement Operators in Quantum Mechanics (T)—Philip Pechukas and John C. Light. 44, 3897 (1966)

On the Electronic Energy of a One-Electron Diatomic Molecule near the United Atom (T)—W. Byers Brown and Erich Steiner. 44, 3934 (1966)

Jahn-Teller Effect on a Triplet due to Threefold Degenerate Vibrations (T)—Marc Caner and Robert Englman. 44, 4054(L) (1966)

Analytical Wavefunctions of $^2D$ States of Lithium Isoelectronic Sequence (T)—D. B. Cook and M. A. Ali. 44, 4121 (1966)

Generalized Sternheimer Potential (T)—Saul T. Epstein and John H. Karl. 44, 4347 (1966)

Field-Induced Quantum States at a Surface (E/T)—A. J. Jason, R. P. Burns, A. C. Parr, and M. G. Inghram. 44 4351(L) (1966)

Three-Center-Expansion SCF MO for $H_2$ (T)—R. Bonaccorsi, O. Salvetti, E. Scrocco, and J. Tomasi. 44, 4361(L) (1966)

General Solution for One-Center Zero-Field-Splitting Integrals (T)—John B. Lounsbury and George W. Barry. 44, 4367 (1966)

Studies of Zero-Field Splittings in Aromatic Molecules (T)—M. Godfrey, C. W. Kern, and M. Karplus. 44, 4459 (1966)

Nuclear Quadrupole Effect on Rotational Levels of a Molecule with Two Nuclei Having Spins of $\frac{5}{2}$ (T)—John S. Rigden and Lise Nygaard. 44, 4603 (1966)

Energy Calculation for the Hydride Ion (T)—K. E. Banyard. 44, 4645(L) (1966)

Energy Differences from the Integral Hellmann–Feynman Formula: Application to $HeH^+$ (T)—Edward F. Hayes and Robert G. Parr. 44, 4650(L) (1966)

## MECHANICS, STATISTICAL


Non-Gaussian Corrections to Van Hove's $G_S(r, t)$ for a Monatomic Gas (T)—Rashmi C. Desai. 44, 77 (1966)

On the Quantum-Mechanical Pair-Correlation Function of $^4$He Gas at Low Temperatures (T)—S. Y. Larsen, K. Witte, and J. E. Kilpatrick. 44, 213 (1966)

Pressure and Entropy for Hard Particles at High Density (T)—William G. Hoover. 44, 221 (1966)

Interaction Between Two Rotating Dipolar Systems and a Generalization to the Rotational Double-Temperature Potential (T)—Bruno Linder. 44, 265 (1966)

Onsager Relations and the Spectrum of Critical Opalescence (T)—B. U. Felderhof. 44, 602 (1966)

Rice-Allnatt Assumption in the Low-Density Limit (T)—S. Harris. 44, 613 (1966)

Shape of a Self-Avoiding Walk or Polymer Chain (T)—Michael E. Fisher. 44, 616 (1966)

Role of Free Volume in the Pressure Dependence of the Viscosity of Liquids (T)—A. J. Matheson. 44, 695 (1966)

Calculation of the Dielectric Constant of a Fluid by Cluster Expansion Methods (T)—D. W. Jepsen. 44, 774 (1966)

Transport Properties of Polyatomic Fluids. II. A Dilute Gas of Spherocylinders (T)—Stanley I. Sandler and John S. Dahler. 44, 1229 (1966)

On the Macedo-Litovitz Hybrid Equation for Liquid Viscosity (T)—H. S. Chung. 44, 1362 (1966)

Radial Distribution Functions for Binary Fluid Mixtures of Lennard-Jones Molecules Calculated from the Percus-Yevick Equation (T)—Gerald J. Throop and Richard J. Bearman. 44, 1423 (1966)

Physical-Cluster Theory for a Reactive Gas (T)—Craig Lawson and John S. Dahler. 44, 1456 (1966)

Nonstationary Contributions to the Bulk Viscosity and Other Transport Coefficients (T)—G. Nicolis and G. Severne. 44, 1477 (1966)

On the Kinetic Theory of Dense Fluids (T)—Norman Hurt and Stuart A. Rice. 44, 2155 (1966)

Mixtures with Weak Long-Range Forces (T)—Eivind Hiis Hauge. 44, 2249 (1966)

Quantum Statistical Mechanics of Isotope Effects. II. The Surface Tension and Internal Energy (T)—J. M. Deutch, J. L. Kinsey, and I. Oppenheim. 44, 2270 (1966)

High-Temperature Equation of State (T)—D. A. McQuarrie and J. L. Katz. 44, 2393 (1966)

Self-Diffusion in Dense Fluids (T)—Frank H. Stillinger, Jr., and Raymond J. Suplinskas. 44, 2432 (1966)

Comment on the Collective-Coordinate Treatment of Electrolytes (T)—K. B. Eisenthal and W. G. McMillan. 44, 2542(L) (1966)

Low-Temperature Transport Properties of Gaseous $H_2$, $D_2$, and HD (T)—Dwain E. Diller and E. A. Mason. 44, 2604 (1966)

Transport in Dense Square-Well Fluid Mixtures (T)—J. P. Valleau. 44, 2626 (1966)

On a Derivation of a Quantum-Mechanical Linearized Boltzmann Equation (T)—David K. Hoffman. 44, 2644 (1966)

Shear Relaxation Times of Simple Fluids (T)—Raymond D. Mountain and Robert Zwanzig. 44, 2777 (1966)

Statistical-Mechanical Properties of Small Systems in the Isothermal-Isobaric Ensemble (T)—Zevi W. Salsburg. 44, 3090 (1966)

Thermal Diffusion in Almost Lorentzian Mixtures (T)—E. A. Mason and Francis J. Smith. 44, 3100 (1966)

New Method in the Kinetics of Classical Dense Fluids (T)—R. P. Futrelle. 44, 3240 (1966)

Radial Distribution Function of Hard Spheres (T)—F. H. Ree, R. N. Keeler, and S. L. McCarthy. 44, 3407 (1966)

Kinetics of Unimolecular Breakdown. VII. Statisticomechanical Aspects (T)—R. D. Levine. 44, 3597 (1966)

Rigid Disks and Spheres at High Densities: Bounds on the Partition Function (T)—Zevi W. Salsburg. 44, 3752 (1966)

Random Sequential Addition of Hard Spheres to a Volume (T)—B. Widom. 44, 3888 (1966)

Integral Equations for Distribution Functions of Classical Fluids. II (T)—A. R. Allnatt. 44, 3941 (1966)

Brownian Motion of Polyatomic Molecules: The Coupling of Rotational and Translational Motions (T)—Duane W. Condiff and John S. Dahler. 44, 3988 (1966)

On Brownian Motion in a Fermi Fluid (T)—H. Ted Davis and R. Dagonnier. 44, 4030 (1966)

Statistical Mechanics of Dense Matter: A New Self-Consistent Field Theory (T)—J. A. Barker. 44, 4212 (1966)

Transport Properties of Polyatomic Fluids. III. The Transport-Relaxation Equations for a Dilute Gas of Rough Spheres (T)—Ian L. McLaughlin and John S. Dahler. 44, 4453 (1966)

On the Melting of Copolymeric DNA (T)—H. Reiss, D. A. McQuarrie, J. P. McTague, and E. R. Cohen. 44, 4567 (1966)


## METALS


ESR Absorption of Cesium and Rubidium Solutions in Ethylamine (E)—Kedma Bar-Eli and T. R. Tuttle, Jr. 44, 114 (1966)

Density and the Metallic State (T)—Karl F. Herzfeld. 44, 429(L) (1966)

Electron Paramagnetic Resonance Study of Solutions of Europium in Liquid Ammonia (E)—D. S. Thompson, E. E. Hazen, and J. S. Waugh. 44, 2954 (1966)

Electrical Resistance of Dilute Solutions of Hydrogen in Palladium (E/T)—J. W. Simons and Ted B. Flanagan. 44, 3486 (1966)

Species and Composition of Dilute Alkali-Metal–Ammonia Solutions (T)—S. Golden, C. Guttman, and T. R. Tuttle, Jr. 44, 3791 (1966)

Exciton Analog of the Peierls Instability of One-Dimensional Metals (T)—R. E. Merrifield. 44, 4005 (1966)


## MICROWAVE SPECTRA (see Absorption Spectra)

## MOLECULAR INTERACTIONS


Long-Range Nonbonded Interactions and Rotational Isomerism in Acyl Halides (E/T)—J. E. Katon and W. R. Feairheller, Jr. 44, 144 (1966)

On the Quantum-Mechanical Pair-Correlation Function of $^4$He Gas at Low Temperatures (T)—S. Y. Larsen, K. Witte, and J. E. Kilpatrick. 44, 213 (1966)

Interaction Between Two Rotating Dipolar Systems and a Generalization to the Rotational Double-Temperature Potential (T)—Bruno Linder. 44, 265 (1966)

Intermolecular Potentials and the Infrared Spectrum of the Molecular Complex $(H_2)_2$ (T)—R. G. Gordon and I. K. Cashion. 44, 1190 (1966)

Center of Dispersion Force in HCl Interacting with Rare-Gas Atoms (T)—R. M. Herman. 44, 1346 (1966)

Molecular Rainbows for the 12-6 Potential in the Airy Approximation (T)—E. A. Mason, R. J. Munn, and F. J. Smith. 44, 1967 (1966)

Normal Vibrations and Intermolecular Forces of Crystalline Benzene and Naphthalene (T)—Issei Harada and Takehiko Shimanouchi. 44, 2016 (1966)

Reduction Parameters for an Unspecified Intermolecular Potential. A Harmonic-Oscillator Approximation (T)—John Walkley. 44, 2417 (1966)

Energy of Interaction between Two Molecules (T)—Jeremy I. Musher and Lionel Salem. 44, 2943 (1966)

Nonadditivity of Intermolecular Forces: Effects on the Third Virial Coefficient (T)—A. E. Sherwood, Andrew G. De Rocco, and E. A. Mason. 44, 2984 (1966)

Intermolecular Potential of Radon (T)—P. K. Chakraborti. 44, 3137(L) (1966)

Relativistic Intermolecular Forces, Moderately Long Range (T)—William J. Meath and Joseph O. Hirschfelder. 44, 3197 (1966)

Long-Range (Retarded) Intermolecular Forces (T)—William J. Meath and Joseph O. Hirschfelder. 44, 3210 (1966)

Long-Range Retarded Potentials between Molecules (T)—L. Gomberoff, R. R. McLone, and E. A. Power. 44, 4148 (1966)

Comparison of the Lennard-Jones, exp-6, and Kihara Potential Functions from Viscosity Data of Dilute Argon (T/E)—H. J. M. Hanley. 44, 4219 (1966)

MOLECULAR FILMS (see Surface Phenomena)

MOLECULAR SPECTRA (see Absorption Spectra, Emission Spectra, Luminescence, and Raman Spectra)

MOLECULAR STRUCTURE AND CONSTANTS (see also Absorption Spectra, Luminescence, Raman Spectra, Electron and X-ray Diffraction)

Vibrational Analysis of Acetone, Acetaldehyde, and Formaldehyde (T/E)—P. Cossee and J. H. Schachtschneider. 44, 97 (1966)

Electronic Structure of $C_2$ (T)—P. F. Fougere and R. K. Nesbet. 44, 285 (1966)

Microwave Spectrum of Silver Chloride (E)—Lawrence C. Krisher and Wilfred G. Norris. 44, 391 (1966)

Force Fields in $KrF_2$ and $XeF_2$ (T/E)—C. A. Coulson. 44, 468 (1966)

Application of the Hellmann-Feynman and Virial Theorems to the Theoretical Calculation of Molecular Potential Constants (T)—R. H. Schwendeman. 44, 556 (1966)

Hydrogen-Molecule Excited States: $^1\pi_u$ (T)—Stephen Rothenberg and Ernest R. Davidson. 44, 730 (1966)

Fundamental Vibrations and Force Constants in the Partially Deuterated Methyl Halides (E/T)—J. R. Riter, Jr., and D. F. Eggers, Jr. 44, 745 (1966)

Ground States of Conjugated Molecules. VII. Compounds Containing Nitrogen and Oxygen (T)—Michael J. S. Dewar and Gerald Jay Gleicher. 44, 759 (1966)

Vibrational Dependence of the $l$-Type Doubling Constants of Linear XYZ Molecules (T)—Yonezo Morino and Toru Nakagawa. 44, 841(L) (1966)

Microwave Spectra, Dipole Moments, Structure, and Ring Puckering Vibration of Cyclobutyl Chloride and Cyclobutyl Fluoride (E)—Hyunyong Kim and William D. Gwinn. 44, 865 (1966)

Calculation of the Average Structure of Ethylene (T)—Kozo Kuchitsu. 44, 906 (1966)

Electronic Spectra and Structures of Tropone and Heptafulvene (T)—Kōzō Inuzuka and Toshio Yokota. 44, 911 (1966)

Molecular Constants for $l$-Uncoupled Electronic States of Diatomic Molecules (T)—Marshall L. Ginter. 44, 950 (1966)

Microwave Spectrum of Silver Bromide (E)—Lawrence C. Krisher and Wilfred G. Norris. 44, 974 (1966)

One-Center-Expansion-Configuration-Interaction Studies on $CH_4$ and $NH_3$ (T)—Ronald M. Rutledge and Antony F. Saturno. 44, 977 (1966)

Trimethylene Oxide. III. Far-Infrared Spectrum and Double-Minimum Vibration (E/T)—Sunney I. Chan, T. R. Borgers, J. W. Russell, H. L. Strauss, and W. D. Gwinn. 44, 1103 (1966)

Spin-Rotation Interactions in Polyatomic Molecules (T)—R. G. Gordon. 44, 1184 (1966)

Energy Levels of the Compound State of $N_2$ Near 2.3 eV (E)—G. J. Schulz and H. C. Koons. 44, 1297(L) (1966)

Electron Resonance Studies of Free Radicals in the Gas Phase. Detection of ClO, BrO, and NS (E)—Alan Carrington and Donald H. Levy. 44, 1298(L) (1966)

Infrared Spectra of $VOF_3$ and $POF_3$ (E)—Henry Selig and Howard H. Claassen. 44, 1404 (1966)

Valence Force Field of $CX_3YZ_2$ and the Vibrational Spectra of $CF_3NO_2$, $CCl_3NO_2$, and $CBr_2NO_2$ (T)—A. Castelli, A. Palm, and C. Alexander, Jr. 44, 1577 (1966)

Spin Delocalization in the Allyl and Ethyl Radicals (T)—D. Lazdins and M. Karplus. 44, 1600 (1966)

Molecular Structures of Gaseous Hexabromo- and *ortho*-Dibromobenzene as Determined by Electron Diffraction (E)—Tor G. Strand. 44, 1611 (1966)

Role of Interaction Constants in Force-Constant Calculations (T)—W. J. Lehmann, L. Beckmann, and L. Gutjahr. 44, 1654 (1966)

Group Frequencies in Cyclopropanes. A Correlation Diagram (E/T)—Walter G. Rothschild. 44, 1712(L) (1966)

On the Structure of Gaseous $XeF_6$ (E)—K. Hedberg, S. H. Peterson, R. R. Ryan, and B. Weinstock. 44, 1726(L) (1966)

Normal-Coordinate Analysis and Molecular Properties of Four $CH_2XY$ Halomethanes (X = F or I; Y = Cl or Br) (T)—M. Z. El-Sabban, A. Danti, and B. J. Zwolinski. 44, 1770 (1966)

Vibrational Assignment of Anthracene-$d_{10}$ from the Fluorescence and Absorption Spectra (E)—A. Bree, S. Katagiri, and S. R. Suart. 44, 1788 (1966)

LCAO-SCF Computations for Hydrogen Peroxide (T)—U. Kaldor and I. Shavitt. 44, 1823 (1966)

Coriolis Interaction in the $\nu_1$ and $\nu_3$ Fundamentals of Ozone (T/E)—Shepard A. Clough and Francis X. Kneizys. 44, 1855 (1966)

Semiempirical Molecular Orbital Calculations. I. The Electronic Structure of $H_2O$ and $H_2S$ (T)—D. G. Carroll, A. T. Armstrong, and S. P. McGlynn. 44, 1865 (1966)

Infrared Spectrum of Carbon Dioxide Anion Radical (E)—K. O. Hartman and I. C. Hisatsune. 44, 1913 (1966)

Electronic Structure of Diatomic Molecules. III. A. Hartree-Fock Wavefunctions and Energy Quantities for $N_2(X\,^1\Sigma_g^+)$ and $N_2^+(X\,^2\Sigma_g^+, A\,^2\Pi_u, B\,^2\Sigma_u^+)$ Molecular Ions (T)—P. E. Cade, K. D. Sales, and A. C. Wahl. 44, 1973 (1966)

Dioxygen Monofluoride: Infrared Spectrum, Vibrational Potential Function, and Bonding (E)—R. D. Spratley, J. J. Turner, and G. C. Pimentel. 44, 2063 (1966)

Comparison of Experimentally Derived and Theoretically Calculated Derivatives of the Energy, Kinetic Energy, and Potential Energy for CO (T)—R. H. Schwendeman. 44, 2115 (1966)

Correlation of the C–H Stretching Force Constant with the Nuclear $^{13}C$–H Coupling Constant (E/T)—Theodore L. Brown and Janice C. Puckett. 44, 2238 (1966)

Molecular Structure of $CCl_3NO_2$ by Electron Diffraction (E)—R. E. Knudsen, C. F. George, and J. Karle. 44, 2334 (1966)

Infrared Spectrum, Structure, and Bonding of Lithium Nitroxide, LiON (E)—W. Lester S. Andrews and George C. Pimentel. 44, 2361 (1966)

Molecular Structure of Gaseous Hexachloro- and 1,2,4,5-Tetrachlorobenzene as Determined by Electron Diffraction (E)—T. G. Strand and H. L. Cox, Jr. 44, 2426 (1966)

On the Interpretation of Ring Strain (T)—Bengt Nelander and Stig Sunner. 44, 2476 (1966)

Single-Center Calculations on the $^2\Pi_u$ Excited State of $H_2^+$ (T)—James R. Hoyland. 44, 2533 (L) (1966)

Infrared Spectrum and Normal-Coordinate Analysis of $SF_4$ (E/T)—Ira W. Levin and Charles V. Berney. 44, 2557 (1966)

Force Fields for Group IV Tetrafluorides and Group V Trifluorides (T/E)—Ira W. Levin and Stanley Abramowitz. 44, 2562 (1966)

Microwave Spectrum of Germylacetylene (E)—E. C. Thomas and Victor W. Laurie. 44, 2602 (1966)

Microwave Spectrum, Internal Barrier, Molecular Structure, and Dipole Moment of Disilanyl Fluoride (E/T)—A. Peter Cox and Ravi Varma. 44, 2619 (1966)

Molecular Structure of $(CF_3)_2PCl_3$: Infrared and Raman Spectra (E)—James E. Griffiths and Alexander L. Beach. 44, 2686 (1966)

Erratum: Metastable State of the Double-Charged Carbon Dioxide Ion (E)—Amos S. Newton and A. F. Sciamanna. [40, 718 (1964)] 44, 2830 (1966)

Calculation of Valence States of NO and $NO^+$ (T)—H. Lefebvre-Brion and C. M. Moser. 44, 2951 (1966)

Quantum-Mechanical Potential-Energy Curve for the Lowest $^1\Sigma_u^+$ State of $He_2$ (T)—D. R. Scott, E. M. Greenwalt, J. C. Browne, and F. A. Matsen. 44, 2981 (1966)

Conformational Analysis of Macromolecules. II. The Rotational Isomeric States of the Normal Hydrocarbons (T)—Roy A. Scott and Harold A. Scheraga. 44, 3054 (1966)

Finite Nuclear Mass and Relativistic Effects on the Rotational Constant of Molecular Hydrogen (T)—R. Tipping and R. M. Herman. 44, 3112 (1966)

Microwave Spectra of Alkali Hydroxides: Evidence for Linearity of CsOH and KOH (E/T)—R. L. Kuczkowski, D. R. Lide, Jr., and L. C. Krisher. 44, 3131(L) (1966)

Erratum: United-Atom Approximation Applied to Argonlike Molecules. II. $PH_2^-$, $PH_3$, and $PH_4^+$ (T)—K. E. Banyard and R. B. Hake. [43, 2684 (1965)] 44, 3150 (1966)

Approximate Self-Consistent Molecular Orbital Theory. III. CNDO Results for $AB_2$ and $AB_3$ Systems (T)—J. A. Pople and G. A. Segal. 44, 3289 (1966)

Force Fields for Some Group VI Hexafluorides (T/E)—Stanley Abramowitz and Ira W. Levin. 44, 3353 (1966)

Lower Electronic Levels of the Radicals SiH, $SiH_2$, and $SiH_3$ (T)—Peter C. Jordan. 44, 3400 (1966)

Microwave Spectrum, Vibration-Rotation Interaction, and Potential Function for the Ring-Puckering Vibration of Trimethylene Sulfide (E)—D. O. Harris, H. W. Harrington, A. C. Luntz, and W. D. Gwinn. 44, 3467 (1966)

Out-of-Plane Bending Frequencies in Trimethylene Sulfide from Microwave Intensity Measurements (E)—Howard W. Harrington. 44, 3481 (1966)

United-Atom Approximation Applied to Argonlike Molecules. III. HCl and $SiH_4$ (T)—R. B. Hake and K. E. Banyard. 44, 3523 (1966)

Vibrational Spectrum of Methyl Arsine (E)—Albert B. Harvey and M. Kent Wilson. 44, 3535 (1966)

General Quartic Force Field of HCN (T)—I. Suzuki, M. A. Pariseau, and John Overend. 44, 3561 (1966)

Study of the $H_3^+$ Molecule Using Self-Consistent-Field One-Center Expansion Approximation (T)—Bhairav D. Joshi. 44, 3627 (1966)

Potential Curve for $HeH^+$ (T)—Frank E. Harris. 44, 3636(L) (1966)

Confirmation of the Identification of Dioxygen Monofluoride (E)—Paul N. Noble and George C. Pimentel. 44, 3641(L) (1966)

Partial Wave Theory of $H_2$: Calculations of $\Sigma_g^+$ States (T)—A. K. Bhatia and A. Temkin. 44, 3656 (1966)

Fundamental Frequency Assignment of Thionyl Fluoride ($SOF_2$) (E)—E. L. Pace and H. V. Samuelson. 44, 3682 (1966)

Molecular Orbital Studies of the Ground and Low-Lying Excited States of the $HeH^+$ Molecular Ion (T)—H. H. Michels. 44, 3834 (1966)

Infrared Spectra of Some $MH_4$ Molecules. (E)—George R. Wilkinson and M. Kent Wilson. 44, 3867 (1966)

Infrared Spectrum and Vibrational Potential Function of Hydrazoic Acid (E/T)—C. Bradley Moore and Kjell Rosengren. 44, 4108 (1966)

Torsional Coordinates in Vibrational Anharmonicity; Application to Ethylene (T)—Katsunosuke Machida. 44, 4186 (1966)

Dipole Moment Function and Vibration-Rotation Matrix Elements for CO (T)—Lee A. Young and W. James Eachus. 44, 4195 (1966)

Classification of Rotational Energy Levels for Linear Molecules (T)—B. J. Dalton. 44, 4406 (1966)

## NEUTRON DIFFRACTION

Neutron Scattering in Stretch-Oriented Polyethylene (E/T)—W. Myers, G. C. Summerfield, and J. S. King. 44, 184 (1966)

Study of the Low-Frequency $OH^-$ Motions of LiOH by Neutron Inelastic Scattering (E)—George J. Safford and Frank J. LoSacco. 44, 345 (1966)

Crystal Structure by Neutron Diffraction and the Antiferroelectric Phase Transition in Copper Formate Tetrahydrate (E)—K. Okada, M. I. Kay, D. T. Cromer, and I. Almodovar. 44, 1648 (1966)

Low-Frequency Motions and Barrier to Rotation in Phosphonium Iodide (E)—J. J. Rush. 44, 1722(L) (1966)

Crystal Structure of $O_2PtF_6$: A Neutron-Diffraction Study (E/T)—James A. Ibers and Walter C. Hamilton. 44, 1748 (1966)

Atomic Structure and Correlation in Liquid Binaries by X-Ray and Neutron Diffraction with Application to NaK (E/T)—E. H. Henninger, R. C. Buschert, and L. Heaton. 44, 1758 (1966)

Ferromagnetic and Crystal Structure of Ludlamite, $Fe_3(PO_4)_2 \cdot 4H_2O$, at 4.2°K (E)—S. C. Abrahams. 44, 2230 (1966)

Neutron and Infrared Spectra of $HCrO_2$ and $DCrO_2$ (E)—J. J. Rush and J. R. Ferraro. 44, 2496 (1966)

Structure of Cubic Ammonium Fluosilicate: Neutron-Diffraction and Neutron-Inelastic-Scattering Studies (E)—E. O. Schlemper, W. C. Hamilton, and J. J. Rush. 44, 2499 (1966)

Neutron-Scattering Study of Hindered Rotational Motions and Phase Transitions in Hexamethylbenzene (E)—J. J. Rush and T. I. Taylor. 44, 2749 (1966)

Investigation of the α-Helix–Random-Coil Transition in Polyglutamic Acid by Slow Neutron Scattering (E)—H. Boutin and W. L. Whittemore. 44, 3127(L) (1966)

Neutron-Diffraction Study of the Structures of Ferroelectric and Paraelectric Ammonium Sulfate (E)—Elmer O. Schlemper and Walter C. Hamilton. 44, 4498 (1966)

## NUCLEAR MAGNETIC RESONANCE


Analysis of Carr-Purcell Spin-Echo NMR Experiments on Multiple-Spin Systems. I. The Effect of Homonuclear Coupling (T)—Adam Allerhand. 44, 1 (1966)

Sign of $J_{HF}$ in $CHFCl_2$ (E/T)—E. L. Mackor and C. MacLean. 44, 64 (1966)

Kinetic Theory of Nuclear Spin Relaxation in Gases (T)—R. G. Gordon. 44, 228 (1966)

Erratum: Nuclear Relaxation Processes in Systems of Two Spins (E)—E. L. Mackor and C. MacLean. [42, 4254 (1965)] 44, 430 (1966)

Proton Nuclear Magnetic Relaxation Studies on Water: The Rates of Acid- and Base-Catalyzed Proton Exchange (E)—R. E. Glick and K. C. Tewari. 44, 546 (1966)

NMR Spectrum of 3-Chlorothietane, an Example of Complete NMR Spectral Analysis by Computer Techniques (E)—W. D. Keller, T. R. Lusebrink, and C. H. Sederholm. 44, 782 (1966)

Theoretical Interpretation of $^{31}P$ NMR Chemical Shifts. I (T)—John H. Letcher and John R. Van Wazer. 44, 815 (1966)

Interpretation of the Chemical Shift of ClF (T)—C. D. Cornwell. 44, 874 (1966)

NMR Studies of Inorganic Fluorides. I. High-Resolution $^{19}F$ Spectra of $Si_2F_6$ and $(SiF_3)_2O$ (E)—R. B. Johannesen, T. C. Farrar, F. E. Brinckman, and T. D. Coyle. 44, 962 (1966)

NMR Spectrum of a Nearly Linear Five-Spin System: Hydrogen Bonding in $KH_2F_3$ (T/E)—R. Blinc, Z. Trontelj, and B. Volavšek. 44, 1028 (1966)

Oxygen-17 NMR in Polycrystalline $H_2O$ and $D_2O$ Ice (E/T)—Sherman W. Rabideau and Peter Waldstein. 44, 1304(L) (1966)

Erratum: Nuclear Magnetic Shielding Constants and X-Ray Atomic Scattering Factors for Two-, Three-, and Four-Electron Systems by Means of Analytic Hartree-Fock Wavefunctions (T)—M. L. Rustgi and P. Tiwari. [39, 2590 (1963)] 44, 1310 (1966)

NMR Study of Electron Transfer Rates and Spin Densities in *p*-Xylene and *p*-Diethylbenzene Anions (E)—E. de Boer and C. MacLean. 44, 1334 (1966)

Nuclear Magnetic Relaxation in Ionic Solution. I. Relaxation of $^{23}Na$ in Aqueous Solutions of NaCl and $NaClO_4$ (E)—Maurice Eisenstadt and Harold L. Friedman. 44, 1407 (1966)

Nuclear Magnetic Relaxation of Polymer Solutions. Side-Chain Motion (T)—Robert Ullman. 44, 1558 (1966)

Nuclear Spin–Lattice Relaxation in Ferroelectric Triglycine Sulfate (E)—R. Blinc, G. Lahajnar, M. Pintar, and I. Zupančič. 44, 1784 (1966)

Effect of Hydrostatic Pressure on Molecular Rotation in Solids (E)—J. E. Anderson and W. P. Slichter. 44, 1797 (1966)

Electron Correlation and the Nuclear Spin-Spin Coupling Constant. I. An Alternant Molecular Orbital Description of Nuclear Spin-Spin Coupling (T)—Michael Barfield. 44, 1836 (1966)

Transient Nutations in Nuclear Magnetic Double Resonance. Assignment of Transitions to an Energy-Level Diagram (E/T)—James A. Ferretti and R. Freeman. 44, 2054 (1966)

Distribution of Charge on the Azide Ion in $NaN_3$ (E/T)—I. D. Campbell and C. K. Coogan. 44, 2075 (1966)

Proton Coupling Constants in Cyclobutanone (T/E)—L. L. Combs and L. K. Runnels. 44, 2209(L) (1966)

Fluorine–Carbon-13 Spin-Spin Coupling Constants of Some Bromofluoroethylenes (E)—J. Reuben and A. Demiel. 44, 2216(L) (1966)

Correlation of the C–H Stretching Force Constant with the Nuclear $^{13}C$–H Coupling Constant (E/T)—Theodore L. Brown and Janice C. Puckett. 44, 2238 (1966)

Effect of Paramagnetic Impurities on Proton Spin-Lattice Relaxation Time in Methane (E)—H. S. Sandhu. 44, 2320 (1966)

Magnetic Resonance Studies on Copper (II) Complex Ions in Solution. I: Temperature Dependence of the $^{17}O$ NMR and Copper (II) EPR Linewidths of $Cu(H_2O)_6^{2+}$ (E)—W. B. Lewis, M. Alei, Jr., and L. O. Morgan. 44, 2409 (1966)

Mössbauer Line Broadening in Trivalent Iron Compounds (E)—J. W. G. Wignall. 44, 2462 (1966)

Ammonio-Group $\beta$-Proton Hyperfine Coupling Constants in $\pi$-Electron Radicals (T)—Raymond C. DuVarney and Roger P. Kohin. 44, 2532(L) (1966)

Transverse Relaxation in Systems of Two Nonidentical Spins (T/E)—C. MacLean and E. L. Mackor. 44, 2708 (1966)

Nuclear Magnetic Resonance Powder Patterns of the Second-Order Nuclear Quadrupole Interaction in Solids with Asymmetric Field Gradient (T/E)—K. Narita, J. Umeda, and H. Kusumoto. 44, 2719 (1966)

Kinetics of Rapid Reactions in Liquid Ammonia. The Ammonia–Amide Proton Exchange (E/T)—T. J. Swift, S. B. Marks, and W. G. Sayre. 44, 2797 (1966)

Convergence of High-Resolution NMR Spectral Analysis by Iterative Methods (T/E)—Yoshifumi Kato and A. Saika. 44, 2824(L) (1966)

Nuclear Spin-Lattice Relaxation in Liquid Hydrogen (E)—M. Lipsicas and A. Hartland. 44, 2839 (1966)

Nuclear Spin Relaxation in Gases and Liquids. V. Liquid Hydrogen (T)—J. M. Deutch and I. Oppenheim. 44, 2843 (1966)

Spin-Rotation Contribution to the Relaxation Time of the Fluorine Nuclei in Benzotrifluoride (E/T)—R. H. Faulk and M. Eisner. 44, 2926 (1966)

NMR Subspectral Analysis Applied to Polyfluorobenzenes $C_6H_nF_{6-n}$. I. 1,2,3,5-Tetrafluorobenzene (T/E)—E. Lustig and P. Diehl. 44, 2974 (1966)

Nuclear Magnetic Dipole-Dipole Relaxation Along the Static and Rotating Magnetic Fields: Application to Gypsum (E/T)—D. C. Look and I. J. Lowe. 44, 2995 (1966)

Solvation Number and Solvent Exchange Rate of $Al(DMSO)_n^{3+}$ in DMSO (E)—S. Thomas and W. L. Reynolds. 44, 3148(L) (1966)

Effect of Hindered Molecular Rotation between Unequal Potential Wells upon Nuclear Magnetic Resonance Spin-Lattice Relaxation Times and Second Moments (T)—D. C. Look and I. J. Lowe. 44, 3437 (1966)

Nuclear Magnetic Resonance Study of Molecular Motions in Solid Hydrogen Sulfide (E)—D. C. Look, I. J. Lowe, and J. A. Northby. 44, 3441 (1966)

Chemical Shifts of $^{14}N$ in the NMR Spectra of Linear Triatomic Molecules and Ions (T/E)—J. E. Kent and E. L. Wagner. 44, 3530 (1966)

Determination of Hydration Numbers of Cations in Aqueous Solution by Means of Proton NMR (E)—T. J. Swift and W. G. Sayre. 44, 3567 (1966)

Calculation and Interpretation of the NMR Chemical Shift and Its Pressure Dependence in the Alkali Halide Lattices (T)—D. W. Hafemeister and W. H. Flygare. 44, 3584 (1966)

NMR Studies of the Pressure Dependence of Self-Diffusion in Four Organic Solids (E)—J. E. Anderson and W. P. Slichter. 44, 3647 (1966)

**Anisotropic Rotational Relaxation in Rigid Media by Polarized Photoselection (E/T)**—John R. Lombardi and Geoffrey A. Dafforn. 44, 3882 (1966)

Proton Resonance Study of Molecular Motion and Phase Behavior of Solid $H_2S$ and $H_2Se$ (E)—J. H. Loehlin, P. G. Mennitt, and J. S. Waugh. 44, 3912 (1966)

Nuclear Magnetic Resonance Studies of Pure and Samarium-Doped $CaF_2$ Crystals (E)—R. J. Lysiak and P. P. Mahendroo. 44, 4025 (1966)

**NMR of Tetrahedral Molecules in a Nematic Solvent (E)**—L. C. Snyder and S. Meiboom. 44, 4057(L) (1966)

Dynamic Polarization in Hexafluorobenzene Solutions (E)—E. H. Poindexter, J. R. Stewart, R. J. Runge, and D. D. Thompson. 44, 4059(L) (1966)

**Oxygen-17 Nuclear Magnetic Resonance Study of the Hydration Shell of Nickelous Ion (E)**—Robert E. Connick and Daniel Fiat. 44, 4103 (1966)

Interpretation of NMR Spectra. I. $A_2BX_x$ and $A_2BK_k$ Spectra (E)—R. C. Hirst, D. M. Grant, and E. G. Paul. 44, 4305 (1966)

Erratum: On the Detectability of the Quadratic NMR Electric-Field Effect in Liquids (T)—J. M. Deutch and J. S. Waugh. [43, 2568 (1965)] 44, 4366 (1966)

**Formulation of Resonance Conditions (T)**—J. A. R. Coope. 44, 4431 (1966)

**Proton Resonance Shift of Water in the Gas and Liquid States (T/E)**—J. C. Hindman. 44, 4582 (1966)

Isotope Shifts and Spin Coupling in the Proton Magnetic Resonance of Deuterated Ammonium Ions (E)—G. Fraenkel, Y. Asahi, H. Batiz-Hernandez, and R. A. Bernheim. 44, 4647(L) (1966)

## NUCLEAR QUADRUPOLE RESONANCE

**Microwave Spectrum of Silver Chloride (E)**—Lawrence C. Krisher and Wilfred G. Norris. 44, 391 (1966)

Deuteron Quadrupole Coupling in $D_2O$ (T)—Mariana Weissmann. 44, 422(L) (1966)

Zeeman Studies of the $^{63}Cu$ Nuclear Quadrupole Resonance in Potassium Dicyanocuprate (I) (E)—Gary L. McKown and Jack D. Graybeal. 44, 610 (1966)

**Effect of Quenching of Polarizations in Polar Diatomic Molecules on Nuclear-Quadrupole Coupling, Its Vibrational Dependence, and Molecular Dipole Moments (T)**—H. W. de Wijn. 44, 810 (1966)

Line Shape of $^{14}N$ Pure Quadrupole Resonance by the Zeeman Modulation (T)—Hisao Negita. 44, 1734 (1966)

$^{59}Co$ Nuclear Electric Quadrupole Coupling in a Single Crystal of $Co(en)_3Cl_3 \cdot 3H_2O$ (E)—B. A. Scott and R. A. Bernheim. 44, 2004 (1966)

**Piezoelectric Effects in Nuclear-Quadrupole Resonance (E)**—E. Rodrigues and M. M. Rodrigues. 44, 2200(L) (1966)

Piezoelectricity in Hexamethylenetetramine (E)—Virgil E. Bottom and Edson Rodrigues. 44, 2201(L) (1966)

Nuclear Magnetic Resonance Powder Patterns of the Second-Order Nuclear Quadrupole Interaction in Solids with Asymmetric Field Gradient (T/E)—K. Narita, J. Umeda, and H. Kusumoto. 44, 2719 (1966)

Nuclear Quadrupole Coupling Constants and the Ionic Character of Covalent Bonds (T)—William J. Considine. 44, 4036 (1966)

Temperature and Pressure Dependence of the Nuclear Quadrupole Resonance of $^{14}N$ in $(CH_2)_6N_4$ (E/T)—G. A. Matzkanin, T. N. O'Neal, T. A. Scott, and P. J. Haigh. 44, 4171 (1966)

**Nuclear Quadrupole Effect on Rotational Levels of a Molecule with Two Nuclei Having Spins of $\frac{5}{2}$ (T)**—John S. Rigden and Lise Nygaard. 44, 4603 (1966)

## NUCLEATION

Heterogeneous Nucleation of Alkali Halide Crystals from Solution (E/T)—M. C. Upreti and A. G. Walton. 44, 1936 (1966)

Effect of Beam Temperature on the Heterogeneous Nucleation of Zinc from the Vapor (E)—V. Ruth, K. L. Moazed, and J. P. Hirth. 44, 2093 (1966)

**Homogeneous Nucleation of Water Vapor Determined by Scattering of a Laser Beam (E)**—B. G. Schuster and W. B. Good. 44, 3132(L) (1966)

Homogeneous Nucleation Measurements of Water Vapor in Helium (E)—James L. Kassner, Jr., and Raymond J. Schmitt. 44, 4166 (1966)

## OPTICAL ACTIVITY

Symmetry Rules for Optical Rotation (T)—John A. Schellman. 44, 55 (1966)

MCD of Simple and Catacondensed Aromatics (E)—John G. Foss and Michael E. McCarville. 44, 4350(L) (1966)

## PHASE TRANSITIONS

Nitrogen-Carbon Monoxide Phase Diagram (E)—Meredith Joan Angwin and Judith Wasserman. 44, 417(L) (1966)

**Another Relation Between Thermodynamic Functions Near the Critical Point of a Simple Fluid (T)**—David A. Liberman. 44, 419(L) (1966)

Studies of Lithium Hydride Systems. II. Solid-Liquid Equilibrium in the Sodium Chloride-Lithium Hydride System (E)—C. E. Johnson, S. E. Wood, and C. E. Crouthamel. 44, 880 (1966)

Studies of Lithium Hydride Systems. III. Solid-Liquid Equilibrium in the Lithium Bromide-Lithium Hydride and Lithium Iodide-Lithium Hydride Systems (E/T)—C. E. Johnson, S. E. Wood, and C. E. Crouthamel. 44, 884 (1966)

Argon-Oxygen Phase Diagram (E)—C. S. Barrett, L. Meyer, and J. Wasserman. 44, 998 (1966)

Temperature and Pressure Dependence of the Elastic Constants of Ammonium Bromide (E)—C. W. Garland and C. F. Yarnell. 44, 1112 (1966)

Order-Disorder Phenomena. I. Instability and Hysteresis in an Ising Model Near Its Critical Point (T)—Carl W. Garland and Rémi Renard. 44, 1120 (1966)

Order-Disorder Phenomena. II. Elastic Constants of a Two-Dimensional Ising Model (T)—Rémi Renard and Carl W. Garland. 44, 1125 (1966)

Order-Disorder Phenomena. III. Effect of Temperature and Pressure on the Elastic Constants of Ammonium Chloride (E)—Carl W. Garland and Rémi Renard. 44, 1130 (1966)

Polymorphism and Melting of Ammonium, Thallous, and Silver Nitrates to 45 kbar (E)—Eliezer Rapoport and Carl W. F. T. Pistorius. 44, 1514 (1966)

Pressure-Induced Phase Transition in Wurster's Blue Perchlorate (E)—R. C. Hughes, A. W. Merkl, and H. M. McConnell. 44, 1720(L) (1966)

Critical Scattering of the Perfluoroheptane–Iso-octane System (E)—G. W. Brady, D. McIntyre, M. E. Myers, Jr., and A. M. Wims. 44, 2197(L) (1966)

Gas–Gas Equilibria (T)—J. de Swaan Arons and G. A. M. Diepen. 44, 2322 (1966)

Absorption of Sound Near the Critical Point of the Nitrobenzene–Iso-octane System (E)—A. V. Anantaraman, A. B. Walters, P. D. Edmonds, and C. J. Pings. 44, 2651 (1966)

Neutron-Scattering Study of Hindered Rotational Motions and Phase Transitions in Hexamethylbenzene (E)—J. J. Rush and T. I. Taylor. 44, 2749 (1966)

Heat Capacity and Other Thermodynamic Properties of $MoF_6$ between 4° and 350°K (E)—D. W. Osborne, F. Schreiner, J. G. Malm, H. Selig, and L. Rochester. 44, 2802 (1966)

Corresponding-States Melting Curve for the Alkali Halides at High Pressure (T)—B. B. Owens. 44, 3144(L) (1966)

Order-Disorder Phenomena. IV. Ultrasonic Attenuation near the Lambda Point in Ammonium Chloride (E)—C. W. Garland and C. F. Yarnell. 44, 3678 (1966)

Melting of Iodine at High Pressures (E)—W. Klement, Jr., L. H. Cohen, and G. C. Kennedy. 44, 3697 (1966)

Mathematical Analysis of the Thermal Wave Technique for Linear Kinetics (T)—R. F. Sekerka and W. A. Tiller. 44 3829 (1966)

Measurement of Densities and Estimation of Critical Properties of the Alkali Metals (E/T)—I. G. Dillon, P. A. Nelson, and B. S. Swanson. 44, 4229 (1966)

Steady-State Studies in the Conventional Verneuil Process—the Trajection (Melting) Zone (E/T)—R. C. Pastor, A. C. Pastor, H. Kimura, and K. Arita. 44, 4486 (1966)

Phase Diagrams of Sodium Tungstate and Sodium Molybdate to 45 kbar (E)—Carl W. F. T. Pistorius. 44, 4532 (1966)

## PHOSPHORS

## PHOTOCHEMISTRY

Vacuum-Ultraviolet Photochemistry. IV. Primary Processes in the Photolysis of Water at 1470 Å (E)—L. J. Stief. 44, 277 (1966)

On the Photochemistry of Substituted Anthraquinones (E)—Henry H. Dearman and Alice Chan. 44, 416(L) (1966)

Rare-Gas-Sensitized Vacuum uv Photolysis of Some Aliphatic Hydrocarbons (E)—Günther von Bünau and Ralph N. Schindler. 44, 420(L) (1966)

Mechanism of Propane Formation by Ethane Photolysis at 1470 Å (E)—Kinichi Obi and Ikuzo Tanaka. 44, 424(L) (1966)

Photoionization by Argon Resonance Lines (E)—Masakazu Yoshida and Ikuzo Tanaka. 44, 494 (1966)

$H_2S$ as a Free Radical Interceptor in the Gas-Phase Radiolysis and Photolysis of Propane (E)—P. Ausloos and Sharon G. Lias. 44, 521 (1966)

Electron Paramagnetic Resonance Studies of Photoselected Triplet Molecules. I. Phenoxazine (E)—J.-M. Lhoste, A. Haug, and M. Ptak. 44, 648 (1966)

Electron Paramagnetic Resonance Studies of Photoselected Triplet Molecules. II. Coronene and Phenanthrene (E)—J.-M. Lhoste, A. Haug, and M. Ptak. 44, 654 (1966)

Vibrational Energy of Ozone During Photolytic Explosion (E)—V. D. Baiamonte, D. R. Snelling, and E. J. Bair. 44, 673 (1966)

Singlet and Triplet States of NCN in the Flash Photolysis of Cyanogen Azide (E)—H. W. Kroto. 44, 831(L) (1966)

On the Photolysis of Solid $HN_3$ (E)—Harold A. Papazian and Angelo P. Margozzi. 44, 843(L) (1966)

Paramagnetic Resonance Study of Liquids during Photolysis: Hydrogen Peroxide and Alcohols (E)—Ralph Livingston and Henry Zeldes. 44, 1245 (1966)

Photoelectric Emission from Aromatic-Hydrocarbon-Alkali-Metal Films (E)—Alfred Marchetti and David R. Kearns. 44, 1301(L) (1966)

Primary Processes in Ozone Photolysis (E)—W. B. DeMore and O. F. Raper. 44, 1780 (1966)

Dioxygen Monofluoride: Infrared Spectrum, Vibrational Potential Function, and Bonding (E)—R. D. Spratley, J. J. Turner, and G. C. Pimentel. 44, 2063 (1966)

Some Aspects of the Photochemistry of Benzene (E)—W. A. Noyes, Jr., W. A. Mulac, and D. A. Harter. 44, 2100 (1966)

Photolysis of Liquid Water at 1470 Å (E)—Uriel Sokolov and Gabriel Stein. 44, 2189 (1966)

Reactions of Carbon Atoms with $N_2$, $H_2$, and $D_2$ at 4.2°K (E)—Norman G. Moll and Warren E. Thompson. 44, 2684 (1966)

Matrix-Isolation Study of the Infrared and Ultraviolet Spectra of the Free Radical CNN (E)—Dolphus E. Milligan and Marilyn E. Jacox. 44, 2850 (1966)

Optical Studies of the Photolysis of $CO_2$ at 1470 Å (E)—Robert A. Young and Alban Y.-M. Ung. 44, 3038 (1966)

Mechanism of the Benzene Formation in the Mercury-Photosensitized Reaction of Acetylene (E)—Masao Tsukuda and Shoji Shida. 44, 3133(L) (1966)

Erratum: Reaction of Oxygen Atoms with Acetaldehyde (E)—H. E. Avery and R. J. Cvetanović. [43, 3727 (1965)] 44, 3150 (1966)

Photolysis of Liquid Water at 1849 Å (E)—Uriel Sokolov and Gabriel Stein. 44, 3329 (1966)

Photoionization of Propylene at 1236 Å. Reactions of $C_3D_6^+$ with Added Alkanes (E)—R. Gorden, Jr., R. Doepker, and P. Ausloos. 44, 3733 (1966)

Photochemical Production of $C_3O_2$ from CO (T)—G. Liuti, S. Dondes, and P. Harteck. 44, 4051(L) (1966)

Isotopic Enrichment in the Photochemistry of CO with the 2062-Å Iodine Line (E/T)—G. Liuti, S. Dondes, and P. Harteck. 44, 4052(L) (1966)

Spectroscopic Basis of Carbonyl Photochemistry. I. The Role of Excited-State Geometry in the Photodecomposition of Formaldehyde (T)—E. W. Abrahamson, J. G. F. Littler, and Kim-Phan Vo. 44, 4082 (1966)

Decomposition of Ozone by $O(^1D)$ (E)—D. R. Snelling, V. D. Baiamonte, and E. J. Bair. 44, 4137 (1966)

Energy Threshold for $D + H_2 \rightarrow DH + H$ Reaction (E)—Aron Kuppermann and John M. White. 44, 4352(L) (1966)

Vacuum-Ultraviolet Photochemistry. V. Molecular Elimination of Nitrogen in the Photolysis of Hydrazine (E)—L. J. Stief and V. J. DeCarlo. 44, 4638(L) (1966)

## PHOTOCONDUCTIVITY

Photoionization by Argon Resonance Lines (E)—Masakazu Yoshida and Ikuzo Tanaka. 44, 494 (1966)

Delayed Ionization of Excited Phenanthrene and Anthracene in Solution (E)—Allan Kawada and R. C. Jarnagin. 44, 1919 (1966)

Photoconductivity of Vitreous Zinc 9-Anthroate (E/T)—L. A. du Plessis. 44, 2917 (1966)

Generation of Charge Carriers in Molecular Crystals by Direct Optical Transitions to the Conducting State (T)—James J. Ewing and David R. Kearns. 44, 3139(L) (1966)

Photoconductivity in Rigid Organic Solutions. I. Phenomenology of the Photocurrents (E)—G. E. Johnson and A. C. Albrecht. 44, 3162 (1966)

Photoconductivity in Rigid Organic Solutions. II. Initial Rate Studies of Charge-Carrier Production and the Two-Photon Requirement (E)—G. E. Johnson and A. C. Albrecht. 44, 3179 (1966)

## PHOTOIONIZATION

Absolute Gross Ionization Cross Sections for Electrons (0.6-12 keV) in Hydrocarbons (E)—B. L. Schram, M. J. van der Wiel, F. J. de Heer, and H. R. Moustafa. 44, 49 (1966)

Experimental and Theoretical Studies of Photoionization-Efficiency Curves for $C_2H_2$ and $C_2D_2$ (E/T)—R. Botter, V. H. Dibeler, J. A. Walker, and H. M. Rosenstock. 44, 1271 (1966)

Photoionization Mass Spectrometry of NO (E)—R. M. Reese and H. M. Rosenstock. 44, 2007 (1966)

Absorption, Photoionization, and Fluorescence of $CO_2$ (E)—G. R. Cook, P. H. Metzger, and M. Ogawa. 44, 2935 (1966)

Photoionization Cross Sections for $C^-$, N, and $O^+$ (T)—R. J. W. Henry. 44, 4357(L) (1966)

Photoionization Efficiency Curve for $SF_6$ in the Wavelength Region 1050 to 600 Å (E)—Vernon H. Dibeler and James A. Walker. 44, 4405 (1966)

## POLYMERS

Multicomponent Polyelectrolyte Solutions. Part III. Determination of Activity of KCl in Potassium Polyvinylsulfonate Solutions by Use of a Cation-Sensitive Glass Electrode (E)—Nobuhise Imai and Henryk Eisenberg. 44, 130 (1966)

Multicomponent Polyelectrolyte Solutions. Part IV. Second Virial Coefficient in Mixed Polyvinylsulfonate KCl Systems Near the Θ Temperature (E)—Henryk Eisenberg. 44, 137 (1966)

Neutron Scattering in Stretch-Oriented Polyethylene (E/T)—W. Myers, G. C. Summerfield, and J. S. King. 44, 184 (1966)

Viscosity, Sedimentation, *et Cetera*, of Ring- and Straight-Chain Polymers in Dilute Solution (T)—Victor Bloomfield and B. H. Zimm. 44, 315 (1966)

Second and Fourth Moments of the Polyethylene Chain (T)—Kazuo Nagai. 44, 423(L) (1966)

Shape of a Self-Avoiding Walk or Polymer Chain (T)—Michael E. Fisher. 44, 616 (1966)

Infrared Study of Hydrogen Bonding between Polymers and Methanol: Polypropylene Oxide and Polypropylene Glycol (E)—J. F. Heil and J. M. Prausnitz. 44, 737 (1966)

Monte Carlo Study of Flexible Branched Macromolecules (T/E)—Lawrence V. Gallacher and Stanley Windwer. 44, 1139 (1966)

Adsorption Isotherms for Polymer Chains Adsorbed from Θ Solvents (T)—C. A. J. Hoeve. 44, 1505 (1966)

Nuclear Magnetic Relaxation of Polymer Solutions. Side-Chain Motion (T)—Robert Ullman. 44, 1558 (1966)

Exact Expression for the Distribution of Radii of Gyration of Linear, Flexible, Random-Flight Chains in Two Dimensions (T)—W. C. Forsman. 44, 1716(L) (1966)

Perturbation Theory of the Intrinsic Viscosity of Polymer Chains (T)—Chong Wha Pyun and Marshall Fixman. 44, 2107 (1966)

Random-Walk Model of Adsorption of a Chain-Polymer Molecule on a Long Rigid-Rod Molecule (T)—Robert J. Rubin. 44, 2130 (1966)

Erratum: Normal Vibration of Polyacylonitrile and Deuterated Polyacrylonitriles (E/T)—Reizo Yamadera. [41, 1233 (1964)] 44, 2222 (1966)

Erratum: Random-Walk Model of Chain-Polymer Adsorption at a Surface (T)—Robert J. Rubin. [43, 2392 (1965)] 44, 2222 (1966)

Effect of Volume Exclusion on the Dimensions of Polymer Chains (T)—Paul J. Flory and Stephen Fisk. 44, 2243 (1966)

Optical Properties of Polystyrene in the Vacuum Ultraviolet (E)—J. G. Carter, T. M. Jelinek, R. N. Hamm, and R. D. Birkhoff. 44, 2266 (1966)

Stress Relaxation and Creep in Dilute Polymer Solutions (T)—N. W. Tschoegl. 44, 2331 (1966)

Intermolecular Obstruction in Rubber Elasticity Theory (T)—J. L. Jackson, M. C. Shen, and D. A. McQuarrie. 44, 2388 (1966)

Anisotropy of Polarizability of Polymeric Chains (T)—Richard P. Smith. 44, 2543 (1966)

Rodlike Behavior of Poly(*n*-butyl)isocyanate from Dielectric Measurements (E)—Hyuk Yu, A. J. Bur, and L. J. Fetters. 44, 2568 (1966)

On Polymer Dynamics (T)—R. A. Harris and J. E. Hearst. 44, 2595 (1966)

Ultraviolet Absorption Spectrum of the Allyl Free Radical in Irradiated Polyethylene (E)—D. M. Bodily and M. Dole. 44, 2821(L) (1966)

Investigation of the α-Helix–Random-Coil Transition in Polyglutamic Acid by Slow Neutron Scattering (E)—H. Boutin and W. L. Whittemore. 44, 3127(L) (1966)

Main-Chain Scission and ESR Spectra of Irradiated Polytetrafluoroethylene Oxide (E)—P. Barnaba, D. Cordischi, A. Delle Site, and A. Mele. 44, 3672 (1966)

Theory for the Plasticity of Glassy Polymers (T)—Richard E. Robertson. 44, 3950 (1966)

Conformation of an Isolated Polymer Molecule at an Interface. III. Distributions of Segment Densities near the Interface and of Other Shape Parameters (T)—Ryong-Joon Roe. 44, 4264 (1966)

Electric Polarization of Solutions of Rodlike Polyelectrolytes (T)—John P. McTague and Julian H. Gibbs. 44, 4295 (1966)

Hydrodynamics of Linear Macromolecules. I. Finite Segment Length (T)—Chr. Reinhold and A. Peterlin. 44, 4333 (1966)

Hydrodynamic Properties of Flexible-Ring Macromolecules (T)—Masaaki Fukatsu and Michio Kurata. 44, 4539 (1966)

Thermodynamic and Conformational Properties of Polystyrene. I. Light-Scattering Studies on Dilute Solutions of Linear Polystyrenes (E/T)—G. C. Berry. 44, 4550 (1966)

On the Melting of Copolymeric DNA (T)—H. Reiss, D. A. McQuarrie, J. P. McTague, and E. R. Cohen. 44, 4567 (1966)

Estimation of the Hydrodynamic Interaction Parameter in Dilute Polymer Solutions from the Extinction Angle in Steady-Flow Birefringence (T)—N. W. Tschoegl. 44, 4615 (1966)

## PROTEINS

Theoretical Estimation of the Conductivity of Different Periodic DNA Models (T)—J. Ladik, G. Biczó, and G. Elek. 44, 483 (1966)

Light-Scattering Study of Tobacco Mosaic Virus Solutions When Subjected to Electric Fields (E)—B. R. Jennings and H. G. Jerrard. 44, 1291 (1966)

Flow Birefringence of DNA Molecules (T)—C. F. Osborne. 44, 2735 (1966)

## QUADRUPOLE RESONANCE (see Nuclear Quadrupole Resonance)

## QUANTUM MECHANICS (see Mechanics, Quantum)

## RADIATION CHEMISTRY

Scintillations and Energy Transfer in Argon-Nitrogen Mixtures (E)—Harvey A. Schultz. 44, 377 (1966)

ESR Spectrum of FOO (E)—Richard W. Fessenden and Robert H. Schuler. 44, 434 (1966)

Energy Transfer in Radiolysis of Rare-Gas-$C_2F_6$ Mixtures (E)—Larry Kevan. 44, 683 (1966)

Electron Spin Resonance Studies of $\gamma$-Irradiated Ferroelectric Methylammonium Alum Crystals (E)—Roger P. Kohin and Paul G. Nadeau. 44, 691 (1966)

Ionic Processes in $\gamma$-Irradiated Organic Solids: Electrons in 3-Methylpentane (E)—James B. Gallivan and William H. Hamill. 44, 1279 (1966)

On the Thermal-Spike Model of Low LET Radiolysis (E)—John Y. Yang and John G. Burr. 44, 1307(L) (1966)

On the Thermal-Spike Model of Low LET Radiolysis (T)—R. B. Ingalls. 44, 1308(L) (1966)

Luminescence Processes Generated by Ionizing Radiation in KI and KI:Tl (E)—R. Gilbert Kaufman and Wayne B. Hadley. 44, 1311 (1966)

Detection of Radiation Damage in Anthracene Crystals by Space-Charge-Limited Current Measurements (E)—S. Z. Weisz, A. Cobas, P. E. Richardson, H. H. Szmant, and S. Trester. 44, 1364 (1966)

Electron Spin Resonance Study of Radical Pairs Trapped in X-Irradiated Single Crystals of Dimethylglyoxime-O,O-$d_2$, Glyoxime, and Methylglyoxime at Liquid-Nitrogen Temperature (E)—Yukio Kurita and Michio Kashiwagi. 44, 1727 (1966)

Gas-Phase Radiolysis of Cyclopentane. Relative Rates of $H_2^{\cdot}$-Transfer Reactions from Various Hydrocarbons to $C_3H_6^+$ (E)—R. D. Doepker and P. Ausloos. 44, 1951 (1966)

Restricted Motion of $\beta$ Protons of the HOOC–$CH_2$–$\dot{C}$H–COOH Radical Trapped in Urea Crystals (E/T)—Carlo Corvaja. 44, 1958 (1966)

Conformations of the Free Radical in Irradiated $\alpha$-Aminoisobutyric Acid (E)—Harold C. Box and Harold G. Freund. 44, 2345 (1966)

Molecular Ions in Radiation Chemistry. I. Formation of Aromatic-Amine Cations in $CCl_4$ by Resonance Charge Transfer at 77°K (E)—Tadamasa Shida and William H. Hamill. 44, 2369 (1966)

Molecular Ions in Radiation Chemistry. II. Aromatic-Hydrocarbon Cations in $CCl_4$ at 77°K (E)—Tadamasa Shida and William H. Hamill. 44, 2375 (1966)

Ionic Processes in $\gamma$-Irradiated Organic Solids: Positive-Hole Migration in 3-Methylpentane (E)—James B. Gallivan and William H. Hamill. 44, 2378 (1966)

Energy-Partition Parameters in Radiation Studies of Molecular Gases (E)—Cornelius E. Klots. 44, 2715 (1966)

Electron Spin Resonance of a Gamma-Irradiated Single Crystal of Barbituric Acid Dihydrate (E/T)—William Bernhard and Wallace Snipes. 44, 2817 (1966)

Electron Spin Resonance of Irradiated Single Crystals of Succinamide (E)—Michio Kashiwagi. 44, 2823(L) (1966)

Trapped Electrons in $\gamma$-Irradiated 3-Methylpentane at −196° (E)—David W. Skelly and William H. Hamill. 44, 2891 (1966)

Electron Spin Resonance of a $\gamma$-Irradiated Single Crystal of a Hydrogen Peroxide–Urea Addition Compound at 77°K (E)—T. Ichikawa, M. Iwasaki, and K. Kuwata. 44, 2979 (1966)

Comparison of Radical and Nonradical Processes in the Condensed-Phrase Radiolysis of *n*-Hexadecane (E)—W. E. Falconer and R. Salovey. 44, 3151 (1966)

Excitation of Nitrogen Gas by Alpha Particles and Fission Fragments (E)—Robert C. Axtmann and John T. Sears. 44, 3279 (1966)

Ionization of Liquids by Radiation. I. Methods for Determination of Ion Mobilities and Ion Yields at Low Voltage (E)—Andries Hummel and A. O. Allen. 44, 3426 (1966)

Ionization of Liquids by Radiation. II. Dependence of the Zero-Field Ion Yield on Temperature and Dielectric Constant (E/T)—A. Hummel, A. O. Allen, and F. H. Watson, Jr. 44, 3431 (1966)

On the Formation of the Molecular Hydrogen Peroxide in the Radiolysis of Aqueous Solutions (E)—M. Anbar, I. Pecht, and G. Stein. 44, 3635(L) (1966)

Main-Chain Scission and ESR Spectra of Irradiated Polytetrafluoroethylene Oxide (E)—P. Barnaba, D. Cordischi, A. Delle Site, and A. Mele. 44, 3672 (1966)

Positron Annihilation in Materials under Ionizing Radiation (E)—S. J. Tao and J. H. Green. 44, 4007 (1966)

Molecular Ions in Radiation Chemistry. III. Absorption Spectra of Aromatic-Hydrocarbon Cations and Anions in Organic Glasses (E)—Tadamasa Shida and William H. Hamill. 44, 4372 (1966)

Kinetics of Ionic Processes in the Radiolysis of Liquids. II. Proton Transfer from Cyclohexane Ions to Ethanol (E/T)—James W. Buchanan and Ffrancon Williams. 44, 4377 (1966)

## RADIOCHEMISTRY

Reactions of Bromine Activated by Bromine-82m Isomeric Transition and Radiative Neutron Capture in Liquid and Solid Carbon Tetrachloride and *n*-Hexane (E)—J. A. Merrigan, W. K. Ellgren, Jr., and E. P. Rack. 44, 174 (1966)

$H_2S$ as a Free Radical Interceptor in the Gas-Phase Radiolysis and Photolysis of Propane (E)—P. Ausloos and Sharon G. Lias. 44, 521 (1966)

Isomer of $^{130}I$ (E)—D. Dennis Wilkey and John E. Willard. 44, 970 (1966)

Gas-Phase Radiolysis of Cyclobutane (E)—R. D. Doepker and P. Ausloos. 44, 1641 (1966)

Ag (I) and Ag (III) from Solvated Ag (II) by Radiation-Chemical Conversion in $\gamma$-Irradiated Solutions at 77°K (E)—L. Shields. 44, 1685 (1966)

Oxygen and Nitric Oxide Quenching of Positronium in Liquids (E)—John Lee and G. J. Celitans. 44, 2506 (1966)

Xenon-Sensitized Radiolysis of Propane (E/T)—L. I. Bone, L. W. Sieck, and J. H. Futrell. 44, 3667 (1966)

Muonium Chemistry (E)—R. M. Mobley, J. M. Bailey, W. E. Cleland, V. W. Hughes, and J. E. Rothberg. 44, 4354(L) (1966)

## RAMAN SPECTRA

Ionic Association in Molten $AgNO_3$ (T)—S. C. Wait, Jr., and A. T. Ward. 44, 448 (1966)

Infrared and Raman Studies of Crystalline HCl, DCl, HBr, and DBr (E)—R. Savoie and A. Anderson. 44, 548 (1966)

Interpretation of Brillouin Spectra (T)—Raymond D. Mountain. 44, 832(L) (1966)

Lattice Vibrations of Pyrazine Crystal (E)—Mitsuo Ito and Tadayoshi Shigeoka. 44, 1001 (1966)

Raman Spectral Studies of the Effects of Temperature on Water and Electrolyte Solutions (E)—G. E. Walrafen. 44, 1546 (1966)

Electronic Raman Spectrum of $Ce^{3+}/CaWO_4$ at 77° and 2.2°K (E)—J. Y. H. Chau. 44, 1708(L) (1966)

On the Rotational Diffusion of Molecules (T)—R. G. Gordon. 44, 1830 (1966)

On the Existence of Conformers of Cyclobutyl Monohalides (T/E)—Walter G. Rothschild. 44, 2213(L) (1966)

Molecular Structure of $(CF_3)_2PCl_3$: Infrared and Raman Spectra (E)—James E. Griffiths and Alexander L. Beach. 44, 2686 (1966)

Raman Spectra of Liquid $MgCl_2$ and Liquid $MgCl_2$–KCl System (E)—K. Balasubrahmanyam. 44, 3270 (1966)
Vibrational Spectrum of Methyl Arsine (E)—Albert B. Harvey and M. Kent Wilson. 44, 3535 (1966)
Vibrational Spectra of the $Cl_3^-$ Ion and Evidence for the Existence of $Cl_5^-$ (E)—J. C. Evans and G. Y-S. Lo. 44, 3638(L) (1966)
Force Constants for MC, CN Interaction in $Hg(CN)_2$ (E)—J. M. Smith and L. H. Jones. 44, 3643(L) (1966)
Fundamental Frequency Assignment of Thionyl Fluoride ($SOF_2$) (E)—E. L. Pace and H. V. Samuelson. 44, 3682 (1966)
Raman Spectral Studies of the Effects of Urea and Sucrose on Water Structure (E)—G. E. Walrafen. 44, 3726 (1966)
Infrared and Raman Spectrum of Bromocyclopropane between 3200 and 240 $cm^{-1}$ (E)—Walter G. Rothschild. 44, 3875 (1966)
**Vibrational Spectra of Vanadium Pentafluoride (E)—Howard H. Claassen and Henry Selig. 44, 4039 (1966)**
Vibrational Spectrum of Hydrazine-$d_4$ and a Raman Study of Hydrogen Bonding in Hydrazine (E)—J. R. Durig, S. F. Bush, and E. E. Mercer. 44, 4238 (1966)

REACTION RATES (see Kinetics of Reaction)

REFRACTIVE INDEXES

ROTATION

**Long-Range Nonbonded Interactions and Rotational Isomerism in Acyl Halides (E/T)—J. E. Katon and W. R. Feairheller, Jr. 44, 144 (1966)**
Far-Infrared Spectra of Matrix-Isolated Hydrogen Fluoride (E)—D. W. Robinson and W. G. Von Holle. 44, 410(L) (1966)
**Erratum: Nuclear Relaxation Processes in Systems of Two Spins (E)—E. L. Mackor and C. MacLean. [42, 4254 (1965)] 44, 430 (1966)**
Repulsive Interactions and Molecular Rotation in Inert-Gas Lattices (T)—R. L. Armstrong. 44, 530 (1966)
Microwave Spectrum of Methylazide (E)—William M. Salathiel and R. F. Curl, Jr. 44, 1288 (1966)
Theory of the Origin of the Internal-Rotation Barrier in the Ethane Molecule. II (T)—Robert E. Wyatt and Robert G. Parr. 44, 1529 (1966)
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Calculation of the Barrier to Internal Rotation of Ethane (T)—Jerry Goodisman. 44, 2085 (1966)
On the Existence of Conformers of Cyclobutyl Monohalides (T/E)—Walter G. Rothschild. 44, 2213(L) (1966)
Internal Rotation in Completely Asymmetric Molecules. II. Interactions between Vibration and Internal Rotation (T)—C. Richard Quade. 44, 2512 (1966)
**Erratum: Influence of Hydrostatic Pressure upon Hydroxy and Methoxy Isomers of Substituted Anthracenes and Naphthacene (E)—J. M. McKelvey and A. D. King, Jr. [43, 3178 (1965)] 44, 2542 (1966)**
Reduction of the Fourth-Order Asymmetric-Rotor Hamiltonian (T)—F. X. Kneizys, J. N. Freedman, and S. A. Clough. 44, 2552 (1966)
**Microwave Spectrum, Internal Barrier, Molecular Structure, and Dipole Moment of Disilanyl Fluoride (E/T)—A. Peter Cox and Ravi Varma. 44, 2619 (1966)**
**Neutron-Scattering Study of Hindered Rotational Motions and Phase Transitions in Hexamethylbenzene (E)—J. J. Rush and T. I. Taylor. 44, 2749 (1966)**
**Rotational Analysis of Some Bands of the Triplet—Singlet Transition in Formaldehyde (E)—W. T. Raynes. 44, 2755 (1966)**
**Semiempirical Treatment of Hindered Rotation in Simple Hydrides and Halosubstituted Ethanelike Molecules (T)—John P. Lowe and Robert G. Parr. 44, 3001 (1966)**
**Distortional Effects on the Ethane Internal-Rotation Barrier (T)—O. J. Sovers and M. Karplus. 44, 3033 (1966)**
**Effect of Hindered Molecular Rotation between Unequal Potential Wells upon Nuclear Magnetic Resonance Spin-Lattice Relaxation Times and Second Moments (T)—D. C. Look and I. J. Lowe. 44, 3437 (1966)**
Nuclear Magnetic Resonance Study of Molecular Motions in Solid Hydrogen Sulfide (E)—D. C. Look, I. J. Lowe, and J. A. Northby. 44, 3441 (1966)
**Anisotropic Rotational Relaxation in Rigid Media by Polarized Photoselection (E/T)—John R. Lombardi and Geoffrey A. Dafforn. 44, 3882 (1966)**
Classification of Rotational Energy Levels for Linear Molecules (T)—B. J. Dalton. 44, 4406 (1966)

SCATTERING

**Absolute Gross Ionization Cross Sections for Electrons (0.6-12 keV) in Hydrocarbons (E)—B. L. Schram, M. J. van der Wiel, F. J. de Heer, and H. R. Moustafa. 44, 49 (1966)**
Calculation of Chemical Reaction Probabilities from Elastic Scattering Data (T)—J. L. J. Rosenfeld and J. Ross. 44, 188 (1966)
Simple Classical Model for the Scattering of Gas Atoms from a Solid Surface (T)—R. M. Logan and R. E. Stickney. 44, 195 (1966)
Fluorescent Efficiency of Energetic Electrons in the 3914-Å Band (T)—S. Frankenthal, O. P. Manley, and Y. M. Treve. 44, 257 (1966)
Resonances in the Elastic and Inelastic Electron Scattering from $N_2$ (E)—H. G. M. Heideman, C. E. Kuyatt, and G. E. Chamberlain. 44, 355 (1966)
Resonances in Electron Scattering from $H_2$, HD, and $D_2$ (E)—C. E. Kuyatt, J. A. Simpson, and S. R. Mielczarek. 44, 437 (1966)
Inelastic Electron Scattering from $H_2$ (E)—H. G. M. Heideman, C. E. Kuyatt, and G. E. Chamberlain. 44, 440 (1966)
Inelastic Collisions of $H_2^+$ and $N_2^+$ Ions with Hydrogen Molecules (E)—Dennis W. Vance and T. L. Bailey. 44, 486 (1966)
**Electronic Excitation Accompanying Charge Exchange (E)—M. Haugh, T. G. Slanger, and K. D. Bayes. 44, 837(L) (1966)**
**Cross Sections for Ionization by Electrons. I. Absolute Ionization Cross Sections of Zn, Cd, and $Te_2$. II. Comparison of Theoretical with Experimental Values for Atoms and Molecules (E/T)—R. F. Pottie. 44, 916 (1966)**
Energy Levels of the Compound State of $N_2$ Near 2.3 eV (E)—G. J. Schulz and H. C. Koons. 44, 1297(L) (1966)
Forbidden Transitions in Excitation by Electron Impact (T)—R. H. Garstang. 44, 1308(L) (1966)
Detection of Long-Lived Excited States of Molecules by Penning Ionization (E)—V. Čermák. 44, 1318 (1966)
Reactive Scattering in Molecular Beams: Velocity Analysis of KBr Formed in the $K + Br_2$ Reaction (E)—J. H. Birely and D. R. Herschbach. 44, 1690 (1966)
Molecular Rainbows for the 12-6 Potential in the Airy Approximation (T)—E. A. Mason, R. J. Munn, and F. J. Smith. 44, 1967 (1966)

Low-Energy Atomic Collisions. I. The Schrödinger Equation for $H^+$–H (T)—Donald J. Kouri and C. F. Curtiss. 44, 2120 (1966)

Test of the Low-Energy Limit of the Born Approximation (T)—S. M. Silverman and E. N. Lassettre. 44, 2219(L) (1966)

Erratum: Partial Ionization Cross Sections for Noble Gases Bombarded with 0.8-3.75 MeV Protons (E)—S. Wexler. [41, 1714 (1964)] 44, 2221 (1966)

Application of the Franck-Condon Principle to Molecular Excitation by Collision with Excited Atoms and Molecules (E)—W. W. Robertson. 44, 2456 (1966)

Some Applications of the *R*-Matrix Theory to Reactive and Elastic Molecular Scattering (T)—Byung Chan Eu and John Ross. 44, 2467 (1966)

Weak Transitions in Excitation of $N_2$ by Electron Impact and Comparison with Excitation by Absorption of Radiation (E)—Vincent D. Meyer and Edwin N. Lassettre. 44, 2535(L) (1966)

On the Massey-Mohr Method for Total Elastic Cross Section (T)—H. Shin. 44, 2538(L) (1966)

Cross Section for Atom Exchange with Charge Transfer in a Molecular Collision (E)—Nyle G. Utterback. 44, 2540(L) (1966)

Calculated Elastic Scattering Cross Sections for the $H^+$–He System (T)—G. G. Weber, N. H. Gordon, and R. B. Bernstein. 44, 2814 (1966)

Ionization Cross Sections for Neutral–Neutral Collisions Utilizing Asymmetric Charge Transfer (E)—Robert C. Amme and Howard C. Hayden. 44, 2828(L) (1966)

Interaction of Thermal Electrons with Polarizable and Polar Molecules (E/T)—L. G. Christophorou, G. S. Hurst, and A. Hadjiantoniou. 44, 3506 (1966)

Individual Efficiency Curves for the Excitation of $2^3S$ and $2^1S$ States of Helium by Electron Impact (E)—V. Čermák. 44, 3774 (1966)

Retarding-Potential Measurement of the Kinetic Energy of Electrons Released in Penning Ionization (E)—V. Čermák. 44, 3781 (1966)

Rotational Excitation of Molecules in Collisions with Slow Electrons (T)—L. Wijnberg. 44, 3864 (1966)

Gross- and Partial-Ionization Cross Sections for Electrons on Water Vapor in the Energy Range 0.1-20 keV (E)—J. Schutten, F. J. de Heer, H. R. Moustafa, A. J. H. Boerboom, and J. Kistemaker. 44, 3924 (1966)

Electron-Impact Ionization Cross Sections for Atoms (E)—J. L. Cooper, Jr., G. A. Pressley, Jr., and F. E. Stafford. 44, 3946 (1966)

Intensity Variation with Scattering Angle of Electronic Transitions in $H_2O$ Excited by Electron Impact (E)—Ausma Skerbele and Edwin N. Lassettre. 44, 4066 (1966)

Vibrational Intensities of the $A\,^1\Pi \leftarrow X\,^1\Sigma^+$ Transition in Carbon Monoxide (E)—Ausma Skerbele, Vincent D. Meyer, and Edwin N. Lassettre. 44, 4069 (1966)

Numerical Evaluation of Barrier Penetration and Resonance Effects on Phase Shifts (T)—R. B. Bernstein, C. F. Curtiss, S. Imam-Rahajoe, and H. T. Wood. 44, 4072 (1966)

Critical Opalescence of the Polystyrene–Cyclohexane System: Small-Angle X-Ray Scattering (E/T)—P. Debye, J. Bashaw, B. Chu, and D. M. Tan Creti. 44, 4302 (1966)

Absorption Spectrum of $SF_6$ in the Far Ultraviolet by Electron Impact (E)—J. A. Simpson, C. E. Kuyatt, and S. R. Mielczarek. 44, 4403 (1966)

Sudden Approximation Applied to Rotational Excitation of Molecules by Atoms. II. Scattering of Polar Diatomics (T)—R. B. Bernstein and K. H. Kramer. 44, 4473 (1966)

Intensity Distribution in the Energy-Loss Spectrum of Ethylene (E)—Kevin J. Ross and Edwin N. Lassettre. 44, 4633 (1966)

Electron Excitation of High *n* States in Hydrogen (T)—Stephan Ormonde. 44, 4652(L) (1966)

## SECONDARY ELECTRON EMISSION

## SEDIMENTATION

## SEMICONDUCTORS

Electrical Properties of Cobalt Monoxide (E)—Bertina Fisher and D. S. Tannhauser. 44, 1663 (1966)

## SHOCK WAVES (see also Detonation)

Erratum: Vibrational Relaxation of $O_2$ in $O_2$-$D_2$ Mixtures and of $H_2$ and $D_2$ (T)—Donald R. White. [42, 447 (1965)] 44, 430 (1966)

Reaction between Atomic Oxygen and Nitrous Oxide (E)—E. Stokes Fishburne and R. Edse. 44, 515 (1966)

Excitation Studies on the $N_2(1+)$ and $N_2^+(1-)$ Systems in Shock-Heated N-$N_2$ Mixtures (E)—Kurt L. Wray. 44, 623 (1966)

Vibrational Relaxation of Deuterium by a Quantitative Schlieren Method (E)—John H. Kiefer and Robert W. Lutz. 44, 658 (1966)

Vibrational Relaxation of Hydrogen (E)—John H. Kiefer and Robert W. Lutz. 44, 668 (1966)

Shock Compression of Argon (E/T)—M. van Thiel and B. J. Alder. 44, 1056 (1966)

Association of CN in an Expansion Wave (E)—S. H. Bauer and W. S. Watt. 44, 1327 (1966)

Shock-Tube Measurement of the Rate of Dissociation of Nitrogen (E)—Stanley Byron. 44, 1378 (1966)

Kinetics and Equilibria of the Difluorocarbene Radical Decomposition Behind Shock Waves (E)—A. P. Modica. 44, 1585 (1966)

Hugoniot Equations of State of Several Unreacted Explosives (E)—N. L. Coleburn and T. P. Liddiard, Jr. 44, 1929 (1966)

On the Decomposition of $Cr(CO)_6$ in Shock Waves (E)—W. S. Watt and S. H. Bauer. 44, 2206(L) (1966)

Shock-Tube Study of the Hydrogen–Oxygen Reaction. II. Role of Exchange Initiation (T/E)—Dennis L. Ripley and W. C. Gardiner, Jr. 44, 2285 (1966)

Mass-Spectrometer and uv Absorption Study of $CHF_3$ Decomposition behind Shock Waves (E)—A. P. Modica and J. E. LaGraff. 44, 3375 (1966)

Shock-Tube Determination of the $C_2(A\,^3\Pi \rightarrow X\,^3\Pi)$ and $CF(A\,^2\Sigma^+ \rightarrow X\,^2\Pi)$ Band System Oscillator Strengths (E)—J. A. Harrington, A. P. Modica, and D. R. Libby. 44, 3380 (1966)

Erratum: Some Comparisons of the Classical RRK and the RRKM Theoretical Rate Formulations (T)—D. W. Placzek, B. S. Rabinovitch, G. Z. Whitten, and E. Tschuikow-Roux. [43, 4071 (1965)] 44, 3646 (1966)

Thermal Decomposition of Hexamethylethane, 2,2,3-Trimethylbutane, and Neopentane in a Single-Pulse Shock Tube (E)—Wing Tsang. 44, 4283 (1966)

Heat-Release Profiles in the High-Temperature Oxidation of Acetylene in Shock Waves (E)—W. C. Gardiner, Jr., W. G. Mallard, K. Morinaga, D. L. Ripley, and B. F. Walker. 44, 4653(L) (1966)

## SOLUTIONS (see also Liquids)

ESR Absorption of Cesium and Rubidium Solutions in Ethylamine (E)—Kedma Bar-Eli and T. R. Tuttle, Jr. 44, 114 (1966)

ESR Linewidths in Solution. I. Experiments on Anisotropic and Spin-Rotational Effects (E)—Raymond Wilson and Daniel Kivelson. 44, 154 (1966)

ESR Linewidths in Solution. II. Analysis of Spin-Rotational Relaxation Data (T)—P. W. Atkins and Daniel Kivelson. 44, 169 (1966)

Viscosity, Sedimentation, *et Cetera*, of Ring- and Straight-Chain Polymers in Dilute Solution (T)—Victor Bloomfield and B. H. Zimm. 44, 315 (1966)

Diffusion Coefficients of the He-Xe System (T)—Stanley Weissman. 44, 428(L) (1966)

Proton Nuclear Magnetic Relaxation Studies on Water: The Rates of Acid- and Base-Catalyzed Proton Exchange (E)—R. E. Glick and K. C. Tewari. 44, 546 (1966)

Electron Spin Relaxation in Solvated Manganese (II) Ion Solutions (E/T)—B. B. Garrett and L. O. Morgan. 44, 890 (1966)

Infrared-Reflection Spectra of Molten Fluoride Solutions: Tantalum (V) in Alkali Fluorides (E)—J. Stuart Fordyce and Ruth L. Baum. 44, 1159 (1966)

Infrared-Reflection Spectra of Molten Fluoride Solutions: Nb (V) in KF:LiF (E)—J. Stuart Fordyce and Ruth L. Baum. 44, 1166 (1966)

Nuclear Magnetic Relaxation in Ionic Solution. I. Relaxation of $^{23}Na$ in Aqueous Solutions of NaCl and $NaClO_4$ (E)—Maurice Eisenstadt and Harold L. Friedman. 44, 1407 (1966)

Radial Distribution Functions for Binary Fluid Mixtures of Lennard-Jones Molecules Calculated from the Percus-Yevick Equation (T)—Gerald J. Throop and Richard J. Bearman. 44, 1423 (1966)

Electrical Conductivities of Molten Cadmium-Cadmium Halide Solutions (E/T)—L. F. Grantham. 44, 1509 (1966)

Polarization Studies on Recombination Luminescence in a Rigid Organic Solution (E)—W. M. McClain and A. C. Albrecht. 44, 1594 (1966)

Line-Shape Analysis in EPR Spectra of Nb(IV) Complexes in Solutions and Glasses (E)—M. Lardon and Hs. H. Günthard. 44, 2010 (1966)

Mixtures with Weak Long-Range Forces (T)—Eivind Hiis Hauge. 44, 2249 (1966)

Stress Relaxation and Creep in Dilute Polymer Solutions (T)—N. W. Tschoegl. 44, 2331 (1966)

Magnetic Resonance Studies on Copper (II) Complex Ions in Solution. I: Temperature Dependence of the $^{17}O$ NMR and Copper (II) EPR Linewidths of $Cu(H_2O)_6^{2+}$ (E)—W. B. Lewis, M. Alei, Jr., and L. O. Morgan. 44, 2409 (1966)

Electron Paramagnetic Resonance Study of Solutions of Europium in Liquid Ammonia (E)—D. S. Thompson, E. E. Hazen, and J. S. Waugh. 44, 2954 (1966)

Solvation Number and Solvent Exchange Rate of $Al(DMSO)_n^{3+}$ in DMSO (E)—S. Thomas and W. L. Reynolds. 44, 3148(L) (1966)

Raman Spectra of Liquid $MgCl_2$ and Liquid $MgCl_2$–KCl System (E)—K. Balasubrahmanyam. 44, 3270 (1966)

Solvent Stark Effect and Spectral Shifts (T)—Mario E. Baur and Malcolm Nicol. 44, 3337 (1966)

Electrical Resistance of Dilute Solutions of Hydrogen in Palladium (E/T)—J. W. Simons and Ted B. Flanagan. 44, 3486 (1966)

Determination of Hydration Numbers of Cations in Aqueous Solution by Means of Proton NMR (E)—T. J. Swift and W. G. Sayre. 44, 3567 (1966)

Ultrasonic Shear and Longitudinal Measurements in Aqueous Glycerol (E)—W. M. Slie, A. R. Donfor, Jr., and T. A. Litovitz. 44, 3712 (1966)

Species and Composition of Dilute Alkali-Metal–Ammonia Solutions (T)—S. Golden, C. Guttman, and T. R. Tuttle, Jr. 44, 3791 (1966)

Correlated EPR-Optical Spectra of Potassium in Ethylamine–Ammonia Mixtures (E)—L. R. Dalton, J. D. Rynbrandt, E. M. Hansen, and J. L. Dye. 44, 3969 (1966)

Oxygen-17 Nuclear Magnetic Resonance Study of the Hydration Shell of Nickelous Ion (E)—Robert E. Connick and Daniel Fiat. 44, 4103 (1966)

ESR Linewidths in Solution. III. Experimental Study of the Solvent Dependence of Anisotropic and Spin-Rotational Effects (E)—Raymond Wilson and Daniel Kivelson. 44, 4440 (1966)

ESR Linewidths in Solution. IV. Experimental Studies of Anisotropic and Spin-Rotational Effects in Copper Complexes (E/T)—Raymond Wilson and Daniel Kivelson. 44, 4445 (1966)

Dielectric and Viscous Behavior in the *i*-Amyl Bromide–2-Methylpentane System (E)—D. J. Denney and J. W. Ring. 44, 4621 (1966)

Spectral Shifts in the Absorption Spectra of EDA Complexes in Solution (E)—H. W. Offen and M. S. F. A. Abidi. 44, 4642(L) (1966)

SPECTRA (see Absorption Spectra, Emission Spectra, Luminescence, and Raman Spectra)

SPUTTERING

STATISTICAL MECHANICS (see Mechanics, Statistical)

SURFACE PHENOMENA

Simple Classical Model for the Scattering of Gas Atoms from a Solid Surface (T)—R. M. Logan and R. E. Stickney. 44, 195 (1966)

Theory of Work-Function Change on Adsorption of Polarizable Ions (T)—J. Ross Macdonald and C. A. Barlow, Jr. 44, 202 (1966)

Infrared Study of Adsorbed Molecules on Metal Surfaces by Reflection Techniques (T)—Robert G. Greenler. 44, 310 (1966)

Isotope Effects on Molar Volume and Surface Tension: Simple Theoretical Model and Experimental Data for Hydrocarbons (E/T)—L. S. Bartell and R. R. Roskos. 44, 457 (1966)

On the Surface Tension of Isotopic Mixtures (T)—A. Bellemans and S. Fuks. 44, 834(L) (1966)

Theory of the Low-Temperature Chromatographic Separation of the Hydrogen Isotopes (T)—James King, Jr., and Sidney W. Benson. 44, 1007 (1966)

Atomic View of Surface Self-Diffusion: Tungsten on Tungsten (E)—Gert Ehrlich and F. G. Hudda. 44, 1039 (1966)

Atomic Displacements in One- and Two-Dimensional Diffusion (T)—Gert Ehrlich. 44, 1050 (1966)

Adsorption of Carbon Monoxide on Tungsten. Abundances, Dipole Moments, and Sticking Coefficients (E)—Anthony A. Bell and Robert Gomer. 44, 1065 (1966)

Theory of Formation of Very Thin Oxide Films on Metals (T/E)—Joseph E. Boggio and Robert C. Plumb. 44, 1081 (1966)

Ionic Adsorption and Dissociation Cross Section for Nitrogen (E)—H. F. Winters. 44, 1472 (1966)

Electron Paramagnetic Resonance of Oxygen on ZnO and Ultraviolet-Irradiated MgO (E/T)—Jack H. Lunsford and John P. Jayne. 44, 1487 (1966)

Study of CO Radicals on Magnesium Oxide with Electron Paramagnetic Resonance Techniques (E/T)—Jack H. Lunsford and John P. Jayne. 44, 1492 (1966)

Adsorption Isotherms for Polymer Chains Adsorbed from Θ Solvents (T)—C. A. J. Hoeve. 44, 1505 (1966)
Space Charge in Growing Oxide Films. V. Peturbation Coefficients and Second-Order Treatment (T)—A. T. Fromhold, Jr., and E. R. Graf. 44, 1628 (1966)
Kinetics of Desorption of the β-Nitrogen States Chemisorbed on Tungsten (E)—T. E. Madey and John T. Yates, Jr. 44, 1675 (1966)
Use of $^{17}O$ in an ESR Study of Oxygen Chemisorption on Some Alkaline-Earth Oxides (E)—A. J. Tench and R. L. Nelson. 44, 1714(L) (1966)
High-Field Electron Emission from Indium Arsenide (E)—S. G. Truxillo, J. C. Blair, N. G. Einspruch, and R. Stratton. 44, 1724(L) (1966)
Random-Walk Model of Adsorption of a Chain-Polymer Molecule on a Long Rigid-Rod Molecule (T)—Robert J. Rubin. 44, 2130 (1966)
Chemisorption Studies of Nitrogen on Polycrystalline Tungsten (E)—M. P. Hill, S. M. A. Lecchini, and B. A. Pethica. 44, 2170 (1966)
Three-Body Effects in Physical Adsorption (T)—Robert Wolfe and John R. Sams. 44, 2181 (1966)
Erratum: Random-Walk Model of Chain-Polymer Adsorption at a Surface (T)—Robert J. Rubin. [43, 2392 (1965)] 44, 2222 (1966)
Adsorption and Oxidation of Carbon Monoxide on Clean Films of Palladium and Nickel (E)—K. Kawasaki, T. Sugita, and S. Ebisawa. 44, 2313 (1966)
Effect of Surface Tension on Multilayer Gas Adsorption at Moderate Pressures (T)—M. M. Bakri. 44, 2488 (1966)
Calculation of the Surface Tension of a Simple-Cubic Crystal According to Two Different Methods (T)—K. S. Yun and G. C. Benson. 44, 2548 (1966)
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